VOL. 12, No. 12 DECEMBER 1958

CHRONICLE OF THE WORLD HEALTH ORGANIZATION

CONTENTS

	Page
Cardiovascular disease: opportunities for research	395
An analysis of cardiovascular mortality	398
International health work in the Caribbean area	400
The Barbados public health laboratory service	403
Reports of Expert Groups	
Nutrition and disease	404
A guide to vector control	407
Towards cleaner air	407
Notes and News	
Regional Committee for Africa	409
Regional Committee for the Americas	410
Regional Committee for South-East Asia	411
Regional Committee for Europe	413
Regional Committee for the Eastern Mediterranean	414
Regional Committee for the Western Pacific	415
Studies in laboratory diagnosis	416
The cost of poor water-supplies	417
The conquest of opium addiction	417
Planning health services in the Americas	418
Tuberculosis training course	418
Regional meeting on nutrition	419
The status of the public health engineer	419
Equipment for schools of nursing	419
Atomic energy and society	420
Social psychiatry and community attitudes	420
Teaching of preventive medicine	420
Organizing hospital laboratories	420
Recommended requirements for smallpox vaccine	421
Study Group on Diarrhoeal Diseases	421
Pesticides and herbicides	421
Mental health problems of automation	421
People and places	422
Review of WHO Publications	425
Articles and studies on the World Health Organization: 1946-1957	427

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature which are not mentioned. Proprietary names are distinguished by initial capital letters.

PRINTED IN SWITZERLAND

CARDIOVASCULAR DISEASE : OPPORTUNITIES FOR RESEARCH

While the major public health problems of most of the WHO Regions continue to be endemic communicable diseases such as malaria, bilharziasis, leprosy and yaws, public health workers in Europe are able to concentrate their attention on a few seasonal epidemics—such as influenza and poliomyelitis—and on the chronic, non-infectious diseases. Among these, the cardiovascular diseases take pride of place. With a view to stepping up research in this field within the European Region, an advisory group on cardiovascular diseases was convened by the Regional Office in April 1958. The meeting, which lasted five days, was held in Copenhagen and was attended by experts from ten countries.[1] Their views and recommendations are summarized below.

Congenital heart diseases

As a cause of death, the congenital cardiac defects rank low compared with other diseases of the heart. On the other hand, they cause prolonged disability and their victims are a burden on their families and on the community. Their importance should not, therefore, be underestimated.

Modern surgical techniques for the repair of cardiac defects enable the lives of many patients to be prolonged. Paradoxically, this raises a number of fresh practical issues for the health services—for example, the increased likelihood that these patients will marry and pass on the genetic factors responsible for congenital defects to their children.

Early diagnosis is desirable, as even infants with several malformations can be operated on successfully. The paediatric services should therefore work in close co-operation with the maternity hospitals, as well as with the school medical services and the family doctor. This is, perhaps, more easily said than done, as many general practitioners have a traditional inclination to work in isolation. Several countries have set up cardiological centres for the diagnosis and treatment of patients with congenital heart disease, most of them catering both for children and for adults. It was recommended that similar centres should be established in all countries where such facilities are at present lacking or insufficiently developed. Cardiological centres of this type also provide excellent opportunities for epidemiological studies and other forms of research on congenital heart disease. For instance, long-term observation of patients with congenital defects would provide information on the natural history of these lesions. Careful history-taking might throw considerable light on the relative importance of heredity and of environmental influences to which the mother is exposed, such as nutrition, infections, intoxications, and ionizing radiation.

Rheumatic heart disease

Apart from congenital defects, the only form of cardiovascular disease which is a significant cause of death in persons under 35 years of age is rheumatic heart disease. The group regarded its prevention and treatment as a crucial problem in many European countries.

The prevention of rheumatic fever, of which rheumatic heart disease may be the sequel, was the subject of a report by the WHO Expert Committee on Rheumatic Diseases, published last year.[2] As the only established cause of acute rheumatic fever is infection with group A haemolytic streptococci, the problem resolves itself into the prevention of such infection. This can be accomplished either with the sulfonamides or with penicillin, but penicillin is generally preferred as it is less likely to produce dangerous reactions than the sulfonamides. Never-

[1] Belgium, Czechoslovakia, Denmark, France, Italy, Netherlands, Norway, Sweden, United Kingdom, USSR

[2] *Wld Hlth Org. techn. Rep. Ser.*, 1957, **126**. See also *Chron. Wld Hlth Org.*, 1957, **11**, 150.

theless, the risk of accidents due to sensitization to penicillin is always present. Other disadvantages are the high cost of prolonged treatment and the possible development of strains of staphylococci resistant to penicillin. Although penicillin prophylaxis of relapses of rheumatic fever has previously been recommended by the WHO Expert Committee on Rheumatic Diseases, the Royal College of Physicians of London, and the American Heart Association, many physicians seem reluctant to follow this advice. The group thought it desirable that the reasons for this situation should be investigated. It was also recommended that further studies should be undertaken on the efficacy of penicillin therapy in preventing the development of rheumatic heart disease—as opposed to the prevention of relapses—and on the possibility that after treatment is stopped the subjects may be more susceptible to streptococcal infection than they were before. It was felt that the experience so far was sufficiently favourable to justify the encouragement of penicillin prophylaxis in children, but that the value of this method in adults had yet to be confirmed.

There is reason to believe that the nature of rheumatic heart disease is changing, possibly as a consequence of the new methods of prophylaxis and treatment. This makes it all the more important to intensify research on the epidemiology and natural history of the disease in different countries. The group thought that particular attention should be paid to epidemiological surveys on streptococcal infection in schoolchildren and recommended that steps should be taken to co-ordinate such surveys on an international scale. It would be helpful, too, if arrangements could be made for the international exchange of the sera required for typing streptococci, so that each of the different specialized laboratories need only concern itself with the preparation of a small group of sera.

Several countries still lack adequate facilities for the diagnosis, prevention and treatment of rheumatic heart disease. The advisory group recommended that properly equipped centres, specialized in these tasks, should be set up as part of the health services of the countries. Such centres would also conduct research on rheumatic heart disease. In some cases, they might be combined with the centres for the diagnosis and treatment of congenital defects and cover the whole field of juvenile heart disease.

The group also discussed the social aspects of rheumatic heart disease in young people and stressed the need for providing such patients with the right sort of education and training so that they would be able to find employment commensurate with their physical capacity. Unfortunately, many establishments with large clerical staff are reluctant to employ young people with early valvular disease. It was recommended that a study should be undertaken to find ways of combatting this attitude and of making the public aware of its social implications. Some countries have already introduced legislation to ensure the employment of physically handicapped persons, and it might be that similar measures could be extended to other countries. Another problem is that of providing home help for housewives with rheumatic heart disease, particularly during pregnancy. This might be undertaken by the social welfare departments of the public health services.

Coronary heart disease

Congenital and rheumatic heart diseases account for a high proportion of cardiovascular mortality only in children and young adults. From the age of 40 years onwards, the atherosclerotic and degenerative heart diseases assume increasing importance. Ischaemic heart disease, the principal complication of coronary atherosclerosis, is now one of the leading causes of death in persons of middle age in Europe and many other parts of the world. A recent study in Great Britain has shown that one physician in five develops ischaemic heart disease during middle age.

It is still controversial whether the increase in ischaemic heart disease is simply the result of the increased life expectancy and the reduction in mortality from other causes, or

whether it is also due to other factors, such as changes in the diet, decreased physical activity, cigarette smoking, and nervous strain. It is equally uncertain whether the differences in cardiovascular mortality reported from various countries are real or merely reflect different traditions in clinical medicine with respect to diagnosis, and different methods of coding and classifying causes of death.[3] To help clarify these problems, epidemiological research on a large scale, with close international collaboration, is called for. It was pointed out that investigations of this type are expensive, however, and that countries might require considerable financial support. Specific suggestions included the following:

1. A small group of officers from national offices of vital statistics should undertake a comparison of the procedures adopted in different countries for classifying causes of death.

2. Representatives of the various European research groups now carrying out epidemiological studies on the cardiovascular diseases should meet together to make suggestions for systematic, comparative studies on a number of aspects of atherosclerosis, hypertension, and ischaemic heart disease. For example, the chemistry of the blood lipids might be subjected to rigid examination, and surveys undertaken to elucidate the etiological significance of heredity, dietary habits, occupation, and other environmental factors. An important field of study on which practically no systematic work has been done so far is the role of emotional and psychic factors in the genesis of ischaemic heart disease.

3. The attention of government authorities should be drawn to the need for long-term prospective studies on large groups of the population. Special provisions may have to be made for such studies as they are expensive and require considerable organization.

4. A start might be made on an epidemiological study of atherosclerosis in Europe, along the lines laid down by the WHO Study Group on the Classification of Atherosclerotic Lesions.[4] The initial aim would be to make an accurate statistical analysis of the prevalence of atherosclerosis in a population by geographical location, age and sex, and to standardize techniques of examination and description so as to permit international comparison.

Hypertension

It is difficult at present to gauge the true social importance of hypertension or to make comparisons of statistics from different areas, since there is no agreement regarding the level of blood pressure that should be diagnosed as "hypertension". The group emphasized the importance of establishing an agreed definition.

Many questions need clarification, and the advisory group considered that every effort should be made to encourage research on the pathogenesis, pathology, and diagnosis of hypertension. As in the case of all forms of cardiovascular disease, there is a need for an investigation into the relative importance of genetic make-up and environmental factors. It is known that the blood pressure is raised during emotional stress; long-term studies should be instituted to determine the relationship between such episodes of temporarily raised blood pressure and the ultimate development of a permanent hypertensive state. It was recommended that as an initial step a group of workers actively engaged in research in this field should meet together to discuss these problems.

[3] See also the article on page 398.

[4] *Wld Hlth Org. techn. Rep. Ser.*, 1958, 143

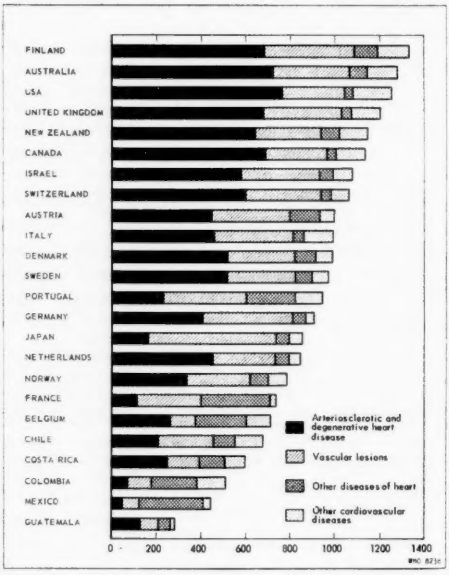
AN ANALYSIS OF CARDIOVASCULAR MORTALITY

Much has been written about the desirability of standardizing the certification of causes of death in different countries in order to provide comparable mortality statistics, and efforts have been made by WHO and other organizations to secure uniformity of nomenclature. But inadequate diagnostic facilities in many countries and differences in traditional clinical practice continue to be obstacles to epidemiological studies on an international basis. The field of cardiovascular disease provides a good illustration of these difficulties.

Theoretically, it should be possible to learn much about the probable causes of cardiovascular diseases from epidemiological studies, and particularly from a comparison of mortality statistics in different countries with different standards and habits of living. In practice, however, the value of such data is largely vitiated by lack of comparability in classification and nomenclature. This point is illustrated by a study of geographical variations in mortality from cardiovascular diseases made recently by Dr Ruth R. Puffer and Dr Louis J. Verhoestraete of the Pan American Sanitary Bureau (PASB), WHO Regional Office for the Americas.[1]

An analysis was made of data from 24 countries on deaths from cardiovascular diseases in the age-group 40 years and over during the year 1954. The rates, adjusted to the age and sex distribution of the population of the USA in 1954, are presented diagrammatically in the accompanying figure. The classification used is that of the *International Statistical Classification of Diseases, Injuries, and Causes of Death*.[2] Four major groups of diseases are covered—arteriosclerotic and degenerative heart disease (420-422), vascular lesions affecting the central nervous system (330-334), other diseases of the heart, and other cardiovascular diseases. Under " other diseases of heart " (430-434) are included the non-rheumatic forms of acute and subacute endocarditis, acute myocarditis, and acute pericarditis, as well as functional heart disease, congestive heart failure, and left ventricular failure. " Other cardiovascular diseases " include rheumatic fever (400-402), chronic rheumatic heart disease (410-416), and hypertension (440-447). It will be seen at a glance that the distribution of mortality in the four groups is very similar in the twelve countries with the highest cardiovascular mortalities, but shows marked variations in the other twelve.

DEATHS FROM CARDIOVASCULAR DISEASES, PER 100 000 POPULATION, IN AGE-GROUP 40 YEARS AND OVER, IN 24 SELECTED COUNTRIES, 1954



Rates adjusted to the age and sex distribution of the population of the USA in 1954

[1] *Bull. Wld Hlth Org.*, 1958, **19**, 315

[2] The term " cardiovascular diseases " is used here to include those diseases classified under numbers 330-334 and 400-447 in the Sixth Revision (1948) of the *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death*, published by the World Health Organization, Geneva. Data on diseases of the arteries (numbers 450-456) and diseases of the veins and other diseases of the circulatory system (numbers 460-468) were unfortunately not available. Mortality from diseases in these two groups is usually small, however (about 5% of all deaths from diseases of the cardiovascular system in the USA in 1954).

In ten of the countries in the first group, more than half the deaths were attributed to arteriosclerotic and degenerative heart disease, and in the other two the proportion was more than 44%. A further 25-40% of the deaths were due to vascular lesions affecting the central nervous system, while the proportion classified as " other diseases of heart " was less than 10%, except in the case of Austria, where it was 13%.

Of the countries in the lower half of the diagram, Costa Rica, Germany, Guatemala, the Netherlands, and Norway showed patterns of this type. In all the other countries, less than 40% of the deaths from cardiovascular disease were ascribed to arteriosclerotic and degenerative heart disease, and in Colombia, France, Japan, Mexico and Portugal, the proportion was less than 25%. Also in great contrast to the distribution in the first group was the proportion of cardiovascular mortality assigned to " other diseases of the heart ". Particularly striking in this respect were Belgium (32%), Colombia (40%), France (42%), and Mexico (65%). In Japan, on the other hand, more than two-thirds of the cardiovascular mortality was attributed to vascular lesions.

The true significance of these wide discrepancies in absolute and relative mortalities cannot be assessed, however, because facilities for the diagnosis of cardiovascular disease are often limited, and because traditional clinical teaching, which varies from country to country, largely decides the choice of diagnostic label. It is known, for example, that in France terms found under the heading " other and unspecified diseases of heart " (434) in the *International Classification of Diseases* are used very frequently, but many of these deaths may, in fact, be due to arteriosclerotic heart disease. It is probable that a similar practice is followed in other countries that are influenced by the French school of medicine, such as Portugal, Colombia, and Mexico. In Japan, on the other hand, the low proportion of deaths from arteriosclerotic heart disease may possibly be due to the fact that in some cases where death is attributed to vascular lesions—for example, cerebral embolism and thrombosis—the underlying cause is arteriosclerosis.

Thus, while there is good reason to believe that considerable differences do exist between death rates from cardiovascular diseases in different countries, it is evident from this study that the statistics at present available do not provide a true picture, particularly with regard to the relative importance of the different sub-groups of cardiovascular disease. The authors stress the need for a careful analysis of the terms used and for an investigation into the underlying causes of death in several countries.

* * *

As the foregoing article exemplifies, it is often difficult to decide which of several existing conditions should be certified as the primary cause of death. In an article entitled *What is " the cause of death ? "*,* Carl L. Erhardt, Director of the Bureau of Records and Statistics in the New York Department of Health, has recently described the processing of death certificates in a vital statistics office and shown how the validity of mortality statistics is impaired by inadequate certification on the part of the attending physician. He discusses the use of the certification form adopted by WHO and draws attention to the instructions published by the Organization in this connexion. As he shows, in the ultimate analysis, the accuracy of death certification, and hence the validity and value of mortality statistics, turns on the importance attached by the individual physician to this task.

" Finally, in some way, the physician must be influenced to change his attitude that the death certificate is 'just paper work', that its completion is a last rite for someone no longer of clinical interest, that it represents merely another bit of bureaucratic red tape ... The major users of information on death certificates are physicians, not alone those in public health, but research clinicians, pathologists, and practicing physicians with special interests. The attending physician, therefore, in completing the death certificate, is fundamentally transmitting information to his colleagues. His respect for them should be adequate incentive to do the job right."

* *J. Amer. med. Assoc.*, 1958, **168**, 161

INTERNATIONAL HEALTH WORK IN THE CARRIBEAN AREA

Some seven years ago, the Pan American Sanitary Bureau (PASB), which acts as the WHO Regional Office for the Americas, began to decentralize its work, setting up Zone and Field Offices in various parts of the Region. The article that follows[1] deals with international health work in those countries in the Caribbean area covered by the PASB/WHO Zone I Office in Caracas, Venezuela.[2]

In the Caribbean, the Zone I Office of PASB/WHO co-operates with 24 health departments serving over 7 million people, most of whom live on islands. The total land area involved is approximately 190 000 square miles. The major public health programmes are those aimed at the eradication of *Aëdes aegypti* (the urban vector of yellow fever), malaria and yaws, and at the control of tuberculosis.

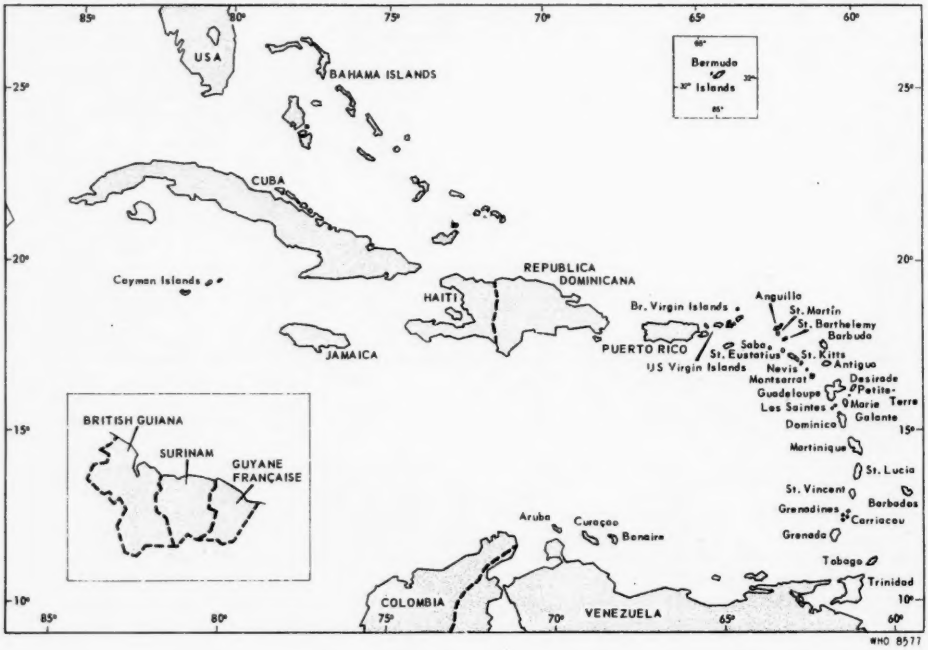
Eradication of *Aëdes aegypti*

The eradication of *A. aegypti* is complete and vigilance against re-infestation is being maintained in five territories or departments (Aruba, Bermuda, British Guiana, French

[1] Adapted from an article in *PASO quarterly*, 1958, 2, No. 3, p. 28

[2] Cuba, the Dominican Republic and Haiti belong to Zone II, which was the subject of an article published in *Chron. Wld Hlth Org.*, 1958, 12, 304. Zone I also includes Venezuela, which will be dealt with in a later article.

THE CARIBBEAN AREA



Guiana and Grenada). The eradication programmes in Bonaire, Curaçao, St Lucia and St Vincent are far advanced; those in Barbados, Carriacou, Dominica, St Kitts, and Trinidad and Tobago are moderately advanced. Eradication services are also operating in Antigua, the Bahamas, Jamaica, Martinique, Puerto Rico, and the United States Virgin Islands, while campaigns were recently started in Guadeloupe and Montserrat. *A. aegypti* eradication programmes have still to be undertaken in the British Virgin Islands, the Lesser Netherlands Antilles, and Surinam.

Malaria

In a number of the Caribbean islands, malaria has been unknown for many years (Antigua, Aruba, the Bahamas, Barbados, Bermuda, Bonaire, British Virgin Islands, Curaçao, Martinique, Montserrat, St Kitts-Nevis, St Vincent and the United States Virgin Islands). Claims of eradication in certain other territories (the Cayman Islands, Dominica, French Guiana, Guadeloupe, and Tobago) have still to be checked by evaluation teams.

Malaria eradication programmes are in an advanced stage in Grenada and St Lucia. The programme in Trinidad is moderately advanced, while in Jamaica and Surinam eradication has just started. In British Guiana, malaria has been eradicated from the coastal areas where 95% of the inhabitants live, and an eradication programme to cover scattered settlements in the interior is about to be organized.

Yaws

The success of the PASB/WHO-assisted yaws eradication campaign in Haiti (Zone II)[3] has greatly stimulated the demand for similar campaigns in the Zone I territories and departments of the Caribbean. Three years ago, in response to requests from governments, PASB/WHO established a plan for the eradication of yaws from the area. The campaign started in 1956 with operations in Grenada (90 000 inhabitants), St Kitts-Nevis-Anguilla (54 000 inhabitants), and St Vincent (76 800 inhabitants). It has since been extended to Dominica, St Lucia, and Trinidad and Tobago.

Tuberculosis

The Caribbean governments are taking energetic measures against tuberculosis, which is one of the most widespread communicable diseases in the area. By the end of 1955, WHO and UNICEF had assisted the governments of British Guiana, Grenada, Jamaica, St Kitts-Nevis-Anguilla, Surinam, and Trinidad and Tobago to launch mass BCG-vaccination campaigns. The number of persons to be tuberculin-tested in Surinam —i.e., those aged 25 and under in urban areas, and 45 and under in rural areas—was estimated at 150 000. On the completion of the campaign in 1957, 72% of these persons had been tested.

A campaign aiming at the coverage of the same age-groups started in Barbados in January 1956 and ended in March 1957. Although the total number of persons tested (62.4% of a possible 120 000) was considerably below that recorded for other islands, the coverage in schools was excellent, 37 117 children being tested out of a possible 40 038.

In the Caribbean area, as elsewhere, the past ten years have seen a steady decline in the number of deaths from tuberculosis. The reduction in the number of new cases has been much less dramatic, but in several places the odds seem to be clearly against the survival of the tubercle bacillus and there is hope that the disease will eventually be eradicated.

Other activities

Environmental sanitation is a source of concern to health departments throughout the Caribbean area. A PASB/WHO project for the improvement of water-supplies, sewage and refuse disposal, insect control and housing serves British Guiana, French Guiana, Surinam, and the British, Dutch and

[3] See *Chron. Wld Hlth Org.*, 1958, **12**, 304.

French islands of the Greater and Lesser Antilles. Substantial progress has been made in surveying and evaluating environmental sanitation facilities, which are extremely inadequate in some places. There is no doubt that this problem demands much more attention than it has so far received.

A leprosy survey was conducted in British Guiana, French Guiana, Grenada, Guadeloupe, Martinique, St Lucia, Surinam, and Trinidad and Tobago in 1955-56. It is to be followed up by visits from consultants who will review and advise on developments in each of these territories and departments since that time. At the beginning of 1958, a preliminary survey of smallpox protection in the Caribbean area was undertaken.

Programmes for the development of public health laboratories (see next article), and the reorganization of health services are progressing satisfactorily, and surveys of public health dentistry and public health nursing have been successfully started.

Venereal disease control is a major health problem in the Caribbean area, but adequate programmes in this field cannot be carried out as yet, owing to a shortage of staff. It is hoped that it will eventually be possible to release sufficient staff for this purpose from the mass programmes for the eradication of malaria, yaws and *A. aegypti* and the control of tuberculosis.

Training programmes

PASB/WHO assists governments in training national personnel for all the activities mentioned above. Particular attention is paid to the training of sanitary inspectors and public health nurses, since both these categories of personnel are in heavy demand.

The PASB/WHO fellowship programme has proved invaluable, and the Organization has been able to use Caribbean staff trained for special health activities in their own territories or departments as consultants to governments in other parts of Zone I.

Leprosy control

More prophylactic trials among child contacts of leprosy cases, using small doses of sulfone, were urged by the UNICEF/WHO Joint Committee on Health Policy at a recent meeting in Geneva. Carefully planned research to reach a final verdict on the value of the BCG prophylaxis of leprosy was also recommended by the Committee.

Insecticide resistance in malaria vectors

WHO is now publishing from time to time, in its *Weekly Epidemiological Record*, information received in respect of confirmed cases of resistance of natural vectors of malaria to chlorinated hydrocarbon insecticides. It is hoped that this information will enable health administrations to take active measures to prevent the spread of the resistant vectors.

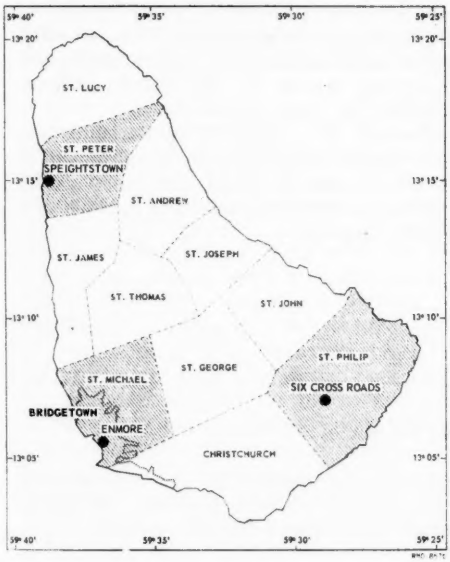
THE BARBADOS PUBLIC HEALTH LABORATORY SERVICE

In the Caribbean area, as elsewhere, the public health laboratories are playing a vital part in programmes against the treponematoses and other communicable diseases. The article that follows[1] describes the organization and work of a public health laboratory service recently established in Barbados with the co-operation of the Pan American Sanitary Bureau (PASB), which acts as the WHO Regional Office for the Americas.

Foundation of the service

In 1956, an agreement was signed between the Government of Barbados, WHO and UNICEF for the establishment of a central public health laboratory at the Enmore Health Centre, Bridgetown, and two branch laboratories at the Speightstown and Six Cross Roads Health Centres (see map).

BARBADOS



In March 1957, a PASB/WHO laboratory consultant started training personnel, and operations began at the central laboratory. Equipment supplied by UNICEF arrived about the same time. Operations in the branch laboratories began in June 1957.

Organization

The Barbados Director of Medical Services is in charge of all the island's public health services, including the three health centres and the public health laboratories. The PASB/WHO consultant advises him on the work of the laboratory service. The present laboratory staff consists of a supervisor (who is the national "counterpart" to the PASB/WHO consultant), a pathologist and three technicians. The laboratories are financed by the Government, and their budgets are controlled by the administrative staff of the health centres.

Training

From the beginning, training has been in the form of practical benchwork without formal lectures or classes. It is believed that this system enables the technicians to learn more in a shorter time. Special emphasis is placed on the technical aspects of the various tests, and the interpretation of the results.

All the staff have been trained to perform the qualitative and quantitative VDRL serology tests. As training for parasitological surveys, the direct-smear and zinc-flotation-concentration tests have been taught, and considerable time has been spent on the identification of the various parasites and ova. The service intends to acquire a complete series of slides of fixed preparations of the common ova for reference purposes.

[1] Adapted from an article in *PASO quarterly*, 1958, 2, No. 3, p. 15

The staff have also been trained in the practical aspects of bacteriological techniques and particularly the isolation and tentative identification of the various bacteria of medical importance. Special attention has been paid to diphtheria and to the gonococcus cultural methods. The dark-field test has been taught to the entire staff. More recently, there has been increasing emphasis on haematological work.

Training has been completed in such basic laboratory techniques as the preparation of culture media, the preparation and sterilization of glassware, and the chemical and microscopic examination of urine.

There has been no division of the different types of laboratory work into sections; all technicians take part in the examination of laboratory specimens so that there is a common interest in every phase of the work.

Scope of the work

The volume and scope of the work are already far beyond what was originally anticipated. This is due in the main to the larger numbers of patients attending the Enmore Health Centre—for example, in September 1957, laboratory services were requested for some 5200 of these patients. The diagnostic services of the laboratories are being increasingly used by the public health authorities both for the island community and for installations such as the United States Navy Base. Moreover, co-operation with such institutions as the Rockefeller Foundation's Virus Laboratory in Trinidad has resulted in a wider use of the laboratory at the Enmore Health Centre. Thus, towards the end of 1957, the laboratory staff at the Centre took part in the collection and processing of blood samples in connexion with a virus disease survey organized by the Trinidad laboratory.

Early in 1958, two other public health surveys were carried out in Barbados with the assistance of the public health laboratory service: a sickle-cell anaemia survey of the patients attending the health centres and a syphilis serological survey of the inmates of the island's eleven almshouses. More recently, a combined nutrition, serological and parasitological survey of the island's schoolchildren has been undertaken.

To sum up, experience in Barbados has undoubtedly shown how the establishment of an efficient public health laboratory service can lead to a rapid expansion of public health work in general.

Reports of Expert Groups

NUTRITION AND DISEASE

Specific nutritional disorders cannot be dealt with in isolation, since they are part of a broader pattern of undernourishment and malnutrition. Measures against these disorders will therefore be to some extent ineffective unless they are combined with an effort to improve nutrition standards in general. This point is stressed at the outset in the fifth report of the Joint FAO/WHO Expert Committee on Nutrition,[1] which reviews the relevant programmes of the two organizations since 1954 with special emphasis on protein malnutrition and deficiency diseases.

Protein malnutrition

The report deals at some length with the joint FAO/WHO/UNICEF programme in this field, which is being carried out in three stages:

(*a*) collection of information on protein malnutrition, including field surveys to ascertain its prevalence in certain areas;

[1] Joint FAO/WHO Expert Committee on Nutrition (1958) *Fifth report* (*Wld Hlth Org. techn. Rep. Ser.*, No. 149), 55 pages. Price: 3/6, $0.60, or Sw. fr. 2.—. Also published in French and Spanish.

(*b*) discussion of the problem by various expert groups;

(*c*) the development and application of preventive measures, including the use of protein-rich foods other than milk in the supplementary feeding of infants and children.

A valuable part in the development of the programme has been played by the Protein Advisory Group established in 1955 to act on behalf of WHO "in rendering advice to FAO and UNICEF on the safety and suitability for human consumption of proposed new protein-rich preparations". This Group has met every six months since its foundation and has examined a wide range of problems relating to protein foods. A grant for the research side of the programme was made by the Rockefeller Foundation in 1956, while UNICEF has opened a special fund to procure the requisite food products and to finance technicological studies essential to their production.

Six protein sources are now being studied under the joint programme: fish flour, soya beans, peanut flour, sesame flour, cotton-seed flour, and coco-nut. Tested batches of food products from these sources are made available to research groups in underdeveloped areas, where their effect in preventing or curing protein malnutrition is studied. In many cases, combinations of these food products are used to supplement the staple foods of the areas concerned. If the results are satisfactory, steps are taken for the local manufacture of the products.

The Joint Committee agreed that the solution to the problem of protein malnutrition lay in educating mothers to feed their children with enough foods of the right kind, and in encouraging national agricultural services to make these foods available in sufficient quantities. Above all, living conditions and standards of health and nutrition generally need to be improved in the countries where the problem exists.

Beriberi

This disease, which is frequently fatal to children, appears to be on the increase in a number of rice-growing countries in East Asia, where it is associated with the wider use of small mills producing a very highly milled rice deficient in thiamine. The causes of beriberi are fully established and methods of preventing it have been known for more than forty years, so that its continuing existence is an anachronism.

The following preventive measures are recommended in the Joint Committee's report: general improvement of the diet to increase its thiamine content; the use of under-milled or parboiled rice; the preparation and cooking of rice in such a way as to preserve its thiamine content as much as possible; the use of synthetic thiamine in rice and other foods. The last of these measures is considered as likely to give the most rapid results.

Anaemia

Malnutrition is at the root of most of the anaemias which occur in the under-developed and tropical areas of the world, affecting in particular expectant and nursing mothers, infants and young children. The factors concerned in the etiology of microcytic hypochromic anaemia, which appears to be the most common form of the disease in these areas, include a low intake of iron and proteins, as well as losses of iron from the body. In the past, the disease was often ascribed to the specific effects of hookworm and malaria, and the importance of the nutritional factors was underestimated.

The Joint Committee recommended that WHO should convene a Study Group on Nutrition and Anaemias [2] to consider the etiology, detection and examination of the anaemias, taking into account not only the nutritional factors involved, but also the part played by parasitic diseases and zymotic infections. It also recommended that WHO should encourage pilot studies at maternal and child health centres for the development of preventive measures against the anaemias.

Eye disorders

Many nutritional deficiencies may cause ophthalmological disease and, in a number

[2] See *Chron. Wld Hlth Org.*, 1958, **12**, 387.

of countries, permanent blindness frequently occurs as a result of avitaminosis A in infancy or early childhood.

Two of the principal eye diseases associated with vitamin A deficiency—xerophthalmia and keratomalacia—chiefly affect young children. In fact, of the 6142 cases recorded during a recent WHO survey of the two diseases in Indonesia, 82.7% were in children 1-6 years of age. As the epidemiological patterns of these diseases vary greatly, the Joint Committee urged further research into the relative importance of the many factors which can contribute to the underlying deficiency state.

Programmes for the prevention of vitamin A deficiency should aim at improving the diets of mothers, and of infants and children up to 6 years of age. Appropriate foods must be made available to supplement the breast-feeding of infants from 4-6 months of age onwards, and to provide the basis for a sound diet in the weaning and post-weaning periods. In countries where the problem of avitaminosis A is acute, it is desirable to supplement the diet of expectant mothers, infants and young children with carotene or vitamin A concentrates.

Nutrition and infection

Further investigation is needed into the role of infections and infestations in the development of protein malnutrition, and the extent to which the occurence of intestinal infections is itself influenced by a pre-existing state of malnutrition.

Intestinal infestation with nematodes has long been suspected to play an important part in producing malnutrition in young children. It appears, for example, that *Ascaris* infestation can adversely affect nitrogen balance and the nutrition of the child. *Ascaris* is so widespread a human parasite that further research on this point is indicated.

In Northern Rhodesia, WHO is at present investigating the relationship between parasitic diseases and malnutrition in the production of anaemias, and the importance of various parasitic diseases as contributory causes of malnutrition. The Joint Committee recommended that WHO should continue to encourage studies of this type.

Other subjects

A number of other subjects are considered in the report, including the place of nutrition in maternal and child health programmes, nutrition education, and the assessment of nutritional status.

The poor nutritional state of the pre-school child is one of the most serious problems confronting maternal and child health workers at the present time. During the first year of life, children in many countries receive adequate attention from maternal and child health centres. Later, when they enter school, they again come under some form of medical supervision. In the intervening years, however, they lack medical care—and it is precisely in those years that they are most exposed to the hazards of malnutrition and infection. The Joint Committee therefore considered it essential that the activities of maternal and child health centres should be extended to cover the pre-school child. Particular attention should be paid to the provision of expert advice on the use of suitable, locally available foodstuffs for feeding weaned children until they can share in the general family diet.

The report notes that facilities for the education of the public in nutrition matters are still far from satisfactory. The role of schools, maternal and child health centres, public health centres, community development programmes, etc. in providing such education is reviewed, and it is recommended that FAO and WHO should expand and intensify their work in this field, in co-operation with UNESCO and UNICEF.

The Joint Committee also agreed on the need for simple objective indicators which could be used by public health workers with a limited knowledge of nutrition to assess the nutritional status of a population, and recommended that expert groups should be convened to study this question.

An annex to the report lists technical assistance projects in nutrition and food technology undertaken by FAO from 1955 to 1958.

A GUIDE TO VECTOR CONTROL

Since 1956, the phenomenon of vector resistance to pesticides has rapidly developed, manifesting itself in an increasing number of species and spreading over wider areas. A co-ordinated research programme organized by WHO with the collaboration of numerous laboratories and investigators in different countries has made it possible to collect considerable information on the subject, which will be useful for the more effective planning of eradication and control programmes. This information has enabled the WHO Expert Committee on Insecticides to establish various standard test methods whose application will help to ensure progress in the study of the resistance problem.

The eighth report[1] of the Committee describes, *inter alia*, two standard tests for determining susceptibility or resistance to insecticides, one for use on adult mosquitos and the other for use on mosquito larvae. Also included are details of a provisional method for the bio-assay of insecticide deposits on wall surfaces.

Finally, the report contains a general discussion of a number of measures recommended for the control of a whole series of disease vectors—flies, mosquitos, lice, fleas, ticks and other arthropods, rodents, etc. This is the first time that information of this kind—hitherto scattered throughout a mass of scientific literature—has been brought together in a single document for the use of all those who are responsible for organizing or carrying out the eradication and control campaigns at present under way in many parts of the world.

[1] WHO Expert Committee on Insecticides (1958) *Eighth report : insect resistance and vector control* (*Wld Hlth Org. techn. Rep. Ser.*, No. 153), 67 pages. Price: 3/6, $0.60, or Sw.fr. 2.—. Also published in French and Spanish.

TOWARDS CLEANER AIR

Over the past fifty years much has been done to ensure safe supplies of drinking-water, but little to ensure that the air we breathe is not unduly contaminated by the waste products from heating-systems, from automobiles and railways, and from our vast industrial activities. Yet the weight of the air we breathe in a day is more than ten times that of the water we drink.

It is obviously impracticable, in the present state of knowledge, to provide at reasonable cost all the necessities and amenities of modern life without causing some pollution of the atmosphere, and the serious effect of contaminated air on health has been dramatically demonstrated in recent years in several fogs or smogs, such as those in the Meuse Valley in Belgium (1930), in Donora in the USA (1948), and on several occasions in London. Together, these incidents caused the deaths of thousands of people. Long-standing air pollution of a less virulent kind may prove equally harmful in its economic effects and present a more widespread and insidious threat to human well-being.

At the end of 1957 the WHO Expert Committee on Environmental Sanitation decided to consider the health hazards of man-made air pollution, and to suggest preventive and remedial action which might be taken by individual countries.[1] The members of the Committee represented four continents and the fields of public health administration, sanitation, physics, industrial hygiene, fuel research and meteorological research—an indication of the multiple aspects of the problem.

Evaluation of pollution

Referring particularly to contaminants from industrial and domestic sources, e.g., from fuels, and from radiochemical and nuclear processes, the Committee discussed first the question of recognizing and evaluating conditions of air pollution. Contaminants occur as dusts (formed by disintegration

[1] WHO Expert Committee on Environmental Sanitation (1958) *Fifth report : air pollution* (*Wld Hlth Org. techn. Rep. Ser.*, No. 157), 26 pages. Price: 1/9, $0.30, Sw.fr. 1.—. Also published in French and Spanish.

processes such as crushing, grinding or demolition), fumes (generated by the condensation of vapours and resulting from sublimation, distillation or chemical reactions), minute liquid droplets (generated by condensation), sprays (created by some mechanical disintegration processes), and gases. Smoke has long been an acknowledged nuisance, but it is only recently that the threat presented by organic compounds from incomplete combustion products of industry, automobile traffic, incineration of wastes and evaporation of gasoline has been recognized. Not only do these pollutants cause damage to vegetation, including valuable crops, but certain combinations of them may affect man in ways which vary from a simple watering of the eyes to a congestion of lung tissues. Expanding industrialization in many countries naturally brings with it an increase in the use of fuel and a demand for the development of nuclear sources of energy—a situation which increases the potential health hazards from polluted air, and in particular raises the new problem of radio-active effluents.

Methods of evaluating pollution are still immature; it is a question not merely of devising more efficient ways of measuring the concentration of contaminants (some of which are, no doubt, still to be discovered), but of taking into account many meteorological and physiographical factors of which the mechanics require much further exploration. Wind flow, which largely governs the movement of contaminants, varies both diurnally and seasonally; air turbulence functions in relation to the wind strength and to the stability of the atmosphere, which in turn is influenced by temperature inversions. Thus, instead of being dispersed and diluted, polluted air may tend to be trapped in layers, which are often still further confined by features of terrain such as narrow valleys or by the proximity of high buildings. Even natural dispersal and dilution, however, would not prevent the gradual building-up of a polluted lower atmosphere which eventually could no longer be tolerated by man, were it not that precipitation periodically provides the cleansing agents of rain and snow to remove both particulate and gaseous contamination. More information is required on the factors affecting air movement in localities of different types, and reliable air-sampling procedures must be devised to deal with smoke, dust, chemical aerosols, gases and radio-active substances. For this, quantitative methods of chemical analysis and often complex instrumentation may be needed—but whatever the evaluation techniques used, it is of primary importance that they should be internationally standardized, and that general agreement should be obtained on terminology for reporting purposes.

Effects

As yet the effects of pollution on human health (and indeed on animals, vegetation and the economy in general) are too little understood for desirable limits of concentration of contaminants to be established. To achieve this very necessary aim, laboratory investigation of suspect substances should be greatly expanded, and specific epidemiological research should be carried out on those diseases (such as chronic bronchitis and lung cancer) thought to be causally related to air pollution, international accordance being sought on the relevant clinical and statistical terms. Animal and botanical studies may be particularly valuable, both for their intrinsic economic importance and, even more, as a source of guidance on parallel human susceptibility. An interesting aspect of the investigations on plants is that not only can they provide information on the chemical nature of air pollutants and on the duration of their cumulative effects, but certain species might actually be used as alarm signals of potential danger to health before clinical symptoms are noted.

Control

Much of the air pollution which now exists could be prevented without undue cost, and sometimes even with a financial saving, by careful planning and siting of factories and dwellings, better design of equipment, and better operation of equipment based on

adequate training of management, executives and operators. The reduction of the waste products from certain combustion and manufacturing processes, mitigation of their effects by consideration of the meteorological and topographical factors referred to earlier, and careful control by technically qualified operators of all plants likely to emit undue quantities of pollutants are measures urgently required in many areas.

The administration of a control programme must be based upon the concept that clean air is attainable to the extent that the community concerned is willing to pay for it; education of the public would do much to facilitate the activities of the control authority. New legislation will be necessary to provide for a workable control organization; and since the movement of air masses knows no jurisdictional boundaries, the area supervised by this body cannot be confined within the limits of conventional governmental units. At a national level, however, it is proposed that advice on the establishment of such legislation might be obtained from committees representing the interests of public health administration, fuel usage, industrial hygiene, agriculture, science, industry and town-planning. WHO could offer valuable assistance by analysing the various forms of legislation already developed by certain countries, and by disseminating fresh information, as it became available, on advances in abatement methods, unsuspected forms of pollution, and new health hazards. The Committee lays some stress on the desirability of suppleness in the legislation, so that rigidly fixed standards of pollution limits should not be outdated by improvements in industrial and technical performance, nor, alternatively, act as a brake on the development of new processes. The control organization itself might best be placed primarily in the hands of existing public health departments, but it should be administered by officials who have received specialized technical training, while the various aspects of each country's effort should be supervised by national advisory councils on air pollution, specially appointed to appraise the problem as a whole and to give general assistance to the central administration.

Notes and News

Regional Committee for Africa

The eighth session of the WHO Regional Committee for Africa was held in Monrovia, Liberia, from 22 to 26 September 1958. It was attended by representatives of 11 Member States and Associate Member States of the Region. The United Nations, UNICEF and several non-governmental organizations were also represented. Dr M. G. Candau, Director-General of WHO, was present for part of the session.

The following officers were elected by the Committee: Dr J. B. Titus (Liberia), Chairman; Dr L. P. Aujoulat (France), Vice-Chairman; Dr W. Delfontaine (Belgium) and Dr H. M. S. Boardman (Sierra Leone), Rapporteurs.

Dr F. J. C. Cambournac, WHO Regional Director for Africa, stated in his report that there had been a greater expansion of regional activities between 1 July 1957 and 30 June 1958 than in any previous year. The training of personnel continued to have high priority and, in the year under review, a total of 128 fellowships had been awarded to health personnel from the African Region.

The communicable diseases were still the Region's biggest health problem. Twelve million people had so far been examined in yaws campaigns and 7 million cases of yaws had been cured. More than 50 000 persons in the Region had been examined by WHO tuberculosis survey teams, and a mass chemoprophylaxis campaign against tuberculosis was being started in Nairobi, Kenya.

About half the leprosy cases in the Region were under treatment, and the antileprosy campaign in the Belgian Congo, French Equatorial Africa, French West Africa, Ghana and Nigeria would shortly be extended to Sierra Leone and Gambia.

An encouraging feature of the year's antimalaria work in Africa was that, although vector resistance to dieldrin and BCH had been reported from several parts of the Region, no case of resistance to DDT was observed, even in *Anopheles gambiae*. Encouraging results in the treatment of malaria with chloroquine had been reported from French West Africa, and more than forty small pilot projects were trying out medicated salt as a malaria suppressive.

While the vector of onchocerciasis had been eradicated from Kenya and Uganda, there were still about 20 million people in the Region suffering from the disease. Bilharziasis was particularly prevalent in East Africa, and the situation had been aggravated by the extension of irrigation and drainage systems. Smallpox was still a problem in some parts of the Region.

During the period under review, the governments of the Region had been making special efforts to improve environmental sanitation and maternal and child health services. Large-scale nutrition surveys were being carried out in co-operation with FAO.

The Regional Committee endorsed a revised programme and budget for 1959, and the proposed programme and budget for 1960. These budgets, of about $3 700 000 and $4 000 000 respectively, include allocations from the regular WHO budget and contributions anticipated from United Nations Technical Assistance funds and from UNICEF. In addition, antimalaria work in the Region will benefit from allocations from the Malaria Eradication Special Account amounting to $446 000 for 1959 and $781 000 for 1960.

The subject of this year's technical discussions was " Community development and the health component ". From the papers presented and the ensuing discussions, it was apparent that there was wide divergency of opinion concerning the place of health in community development programmes. Some participants considered health improvement to be only one aspect of these programmes, while others argued that it was their principal aim. It was agreed that health educators working in community development programmes should, if possible, be of the same race and culture as the communities concerned, and that they should direct their efforts particularly towards children in schools and women attending maternal and child health centres.

The Committee decided to hold its tenth session in Accra, Ghana, in September 1960. The ninth session is to be held in Nairobi, Kenya.

Regional Committee for the Americas

The XVth Pan American Sanitary Conference, which was held at San Juan, Puerto Rico, from 21 September to 3 October 1958, served also as the tenth session of the WHO Regional Committee for the Americas.

The participants in the Conference included representatives of 19 American republics and of 3 European governments with territories in the Americas. Canada was represented by an official observer, and observers were also present from a number of governmental and non-governmental organizations. The Conference was attended by Dr M. G. Candau, Director-General of WHO.

Dr Guillermo Arbona (Puerto Rico) was President of the Conference; Dr Héctor Virgilio Noblía (Argentina) and Dr Alejandro Jiménez Arango (Colombia) were Vice-Presidents. Dr Abraham Horwitz (Chile) was elected Director of the Pan American Sanitary Bureau to succeed Dr Fred L. Soper, whose third four-year term of office ends on 31 January 1959. The appointment of Dr Horwitz as WHO Regional Director for the Americas will be proposed at the next session of the WHO Executive Board.

The Conference voted to change the name " Pan American Sanitary Organization " to " Pan American Health Organization ". The name of the Organization's executive body —the Pan American Sanitary Bureau (PASB), which serves as the WHO Regional Office for the Americas—remains unaltered.

A budget of $3 600 000 was approved for the Pan American Health Organization for 1959. Provision was also made for the use of some $1 700 000 from the regular budget of WHO. A further $5 300 000 are expected to be available in contributions from United Nations Technical Assistance funds, the PAHO Special Malaria Eradication Fund, and other sources. These sums will be used to assist public health administrations in the Region in an estimated 215 health programmes which are either already in operation or planned for the coming year. The programmes—in particular those concerned with malaria eradication and maternal and child health—will also receive assistance from UNICEF in the form of supplies and equipment.

Dr Fred L. Soper, Director of the Pan American Sanitary Bureau, presented a report on the Bureau's work during the past four years, and a " Summary of Four-Year Reports on Health Conditions in the Americas ". Prepared by PASB on the basis of data supplied by Member States, the latter is the most comprehensive statistical survey of health conditions yet to be compiled for the Region.

The progress of malaria eradication in the Americas since the launching of the present eradication programme in 1954 was the subject of another report presented to the Conference. By 31 July of this year, national malaria eradication programmes were in operation or planned in all but two of the countries in the Region where the disease still exists. In a resolution on the subject, the Conference urged Member States to increase their efforts, co-ordinating their eradication programmes as far as possible, particularly in border areas. Appreciation was expressed for the co-operation of UNICEF in this sphere.

Aëdes aegypti—the urban vector of yellow fever—has now been eradicated from eleven countries and territories of the Americas. The Conference appealed to the countries of the Region which are still infested with this mosquito to intensify their eradication campaigns.

The Conference urged the governments of countries where smallpox still exists to carry out nation-wide campaigns for its eradication, and requested the co-operation of Member States in supplying smallpox vaccine and giving technical advice in this connexion. Governments were also asked to carry out intensive surveys on nutritional conditions, the enrichment of foods and the exchange of basic food products.

The question of the proper control of food and drugs was considered by the Conference, which asked Member States to authorize the importation only of such food, drugs and therapeutic products as were authorized for domestic consumption in the importing countries. A day of the Conference was set aside for technical discussions on the topic " The prevention of accidents in childhood ".

The Conference accepted the invitation of the Argentine Government to hold the XVIth Pan American Sanitary Conference (fourteenth session of the WHO Regional Committee for the Americas) at Buenos Aires in the autumn of 1962.

Regional Committee for South-East Asia

The eleventh session of the WHO Regional Committee for South-East Asia was held in New Delhi, India, from 24 to 30 September 1958. Delegates were present from 8 countries. The United Nations, UNICEF, FAO and other intergovernmental organizations were represented, together with several non-governmental organizations. The following officers were elected: Lt-Col. Jaswant Singh (India), Chairman; Dr Raghubar Baidya (Nepal), Vice-Chairman.

In his report for the period August 1957-July 1958, Dr C. Mani, WHO Regional Director for South-East Asia, stated that the year had witnessed a certain slowing-up in the development of public health services in the Region. This must, however, be considered as no more than a temporary setback, for people in South-East Asia—an area often considered unfairly as " resistant " to scientific medicine—now fully realized the benefits of modern public health services and were demanding an increasing share of them.

Nevertheless, the difficulties should not be minimized. There was still an acute shortage

of trained and even semi-trained health personnel, while training programmes were often neither well planned nor well executed. Moreover, a number of projects formerly assisted by WHO were showing signs of deterioration owing to the gradual disappearance of local facilities and resources. Finally, the state of environmental sanitation throughout the Region (see below) remained highly unsatisfactory " partly from lack of funds and partly from lack of driving force to improve existing conditions ".

During the period under review, WHO had assisted 136 health projects in the Region. As in previous years, the main emphasis had been on the control of communicable diseases, the development of rural health services and the training of personnel.

In the field of malaria, all countries in the Region had switched over from a policy of control to one of eradication. A national tuberculosis control programme was being started in India, and the Madras research project on tuberculosis chemotherapy was shortly expected to yield important results. There had been good progress in leprosy control, particularly in Thailand, but yaws control had not progressed as well as expected, and eradication of the disease was not yet in sight. In India and Indonesia, pilot projects for the control of trachoma had given good results.

The Regional Conference on Rural Health held in New Delhi in October 1957 " will undoubtedly form an important milestone in the development of rural health services in the Region ". Certain rural health projects in India had made appreciable progress under the national community development programme, and plans for expanded rural health services were under consideration in Indonesia and Thailand. The rural health project in Chaurassia, Afghanistan, was now well staffed and equipped.

Assistance to medical schools and nurses' training institutions had continued. The school for sanitarians in Kabul, Afghanistan, and the school for health assistants in Kathmandu, Nepal, had made excellent progress and had become permanent features of the national health services. Progress was also noted in the fields of maternal and child health, statistics, health education, and the training of mental health workers.

The proposed programme and budget for 1960 provided for expenditures of $1 498 000 from the regular WHO budget, $2 353 000 from United Nations Technical Assistance funds and $5 187 000 in contributions from UNICEF. Subject to certain modifications, these estimates were endorsed by the Committee.

The Committee approved a proposal to set up a regional centre for the classification and study of diseases, and recommended the establishment of epidemiological units in national departments of health. It was agreed that it would be advantageous for institutions in the Region providing training in preventive and social medicine to exchange personnel and to pool experience, and the Committee asked the Regional Director to facilitate initiatives of this type.

Satisfaction was expressed at the progress in malaria eradication in the Region. Member States were asked to contribute to the Malaria Eradication Special Account and to encourage subscriptions to this fund from other sources. The Committee expressed its support for a smallpox eradication programme in the Region, and urged Member States " to undertake systematic vaccination and revaccination programmes, using and reinforcing all possible measures, including legislation, to obtain total coverage of the entire population ".

The Committee also studied a report by the Regional Office on environmental sanitation in South-East Asia, and passed a resolution advocating the development of programmes concentrating on the provision of potable water-supplies and adequate excreta-disposal facilities.

Three meetings were devoted to technical discussions on the theme " Health aspects of community development programmes ". The following points were given special emphasis: planning and organizing health services for a community development area; difficulties in establishing these services; training of personnel; evaluation of progress. It was decided that the subject of the technical

discussions at the 1959 session of the Committee would be: " The role of immunization in communicable-disease control ".

Regional Committee for Europe

The WHO Regional Committee for Europe met for its eighth session, from 3 to 6 September 1958, in Monaco. Representatives were present from 26 Member States of the Region, from UNICEF, ILO, and other intergovernmental organizations, and from a number of non-governmental organizations.

The Committee elected the following officers: Dr E. Boéri (Monaco), Chairman; Mr W. H. Boucher (United Kingdom), First Vice-Chairman; Dr B. Doubek (Czechoslovakia), Second Vice-Chairman; Dr O. P. Hjaltested (Iceland), Rapporteur.

The Committee heard a tribute to the memory of the late Professor Andrija Štampar, President of the First World Health Assembly, and a statement by Dr M. G. Candau, Director-General of WHO, who noted with satisfaction the evolution of health activities in the European Region, and the impressive number of conferences, seminars and training courses sponsored by the Regional Office.

Introducing his report on regional activities from 1 July 1957 to 30 June 1958, Dr Paul J. J. van de Calseyde, WHO Regional Director for Europe, warmly welcomed the representatives of Czechoslovakia which had resumed active membership in the Organization in January 1958. He went on to stress the following points: the rapid expansion of the regional programme and the consequent expansion of the Regional Office, both on the technical and administrative sides; the importance of the Fellowship Section of the Regional Office which had the responsibility of placing fellows not only from Europe but from other regions, dealing with approximately 50% of all the fellowships granted by the Organization as a whole; the co-operation maintained with the United Nations, its specialized agencies and other inter-governmental agencies in Europe; the development of newer activities, including work on chronic diseases, cardiovascular diseases, cancer, virus infections, and dental health in childhood.

In the ensuing discussion, certain differences of approach to the regional programme were apparent. Some participants considered that, as technical solutions for many health problems were now well known and could be applied by the public health services, the Regional Office should concentrate on such problems as the effects of radiation on the organism, ageing of the population, cancer, and degenerative diseases. Others thought that there was still much to be done in the traditional fields of maternal and child health, communicable disease control, mental health, etc. All united in stressing the importance of assistance to public health and other training institutions by every available means.

The proposed programme and the budget estimates for 1960, which were endorsed with certain amendments, provided for an allocation of $1 389 000 from the ordinary WHO budget to be supplemented by $415 000 from United Nations Technical Assistance funds and $1 180 000 in supplies anticipated from UNICEF for joint programmes.

The Committee expressed the hope that as many Member States as possible would contribute to the Malaria Eradication Special Account. Neighbouring countries were urged to co-ordinate malaria eradication and surveillance measures in border areas in order to prevent the re-introduction of malaria.

In a resolution on the subject of smallpox, the Committee noted that the disease had been imported into several European countries in recent years, and stressed the importance of continuing widespread vaccination pending its world-wide eradication. Member States were requested to increase their production of dried smallpox vaccine and to make surplus supplies available to other countries where endemic foci still existed.

The technical discussions dealt with " Collaboration between scientific, administrative and educational bodies in improving health services ". There was general agreement that research into the administrative aspects of health planning should be encouraged and that research workers should be specially trained for the purpose. It was also agreed

that medical students should be familiarized with the full range of medical responsibilities and interests, and that medical faculties should include teachers capable from personal experience of providing instruction in the administration of medical services.

It was decided that the subject of the technical discussions at the ninth session would be: " Mental health—its place in the public health programme ".

The Committee confirmed its acceptance of the invitation to hold its ninth session in Bucharest in 1959, and decided to hold its tenth session in Copenhagen in September 1960.

Regional Committee for the Eastern Mediterranean

Because of the unwillingness, for political and diplomatic reasons, of certain Member States of WHO in the Eastern Mediterranean Region to attend meetings at the regional level with one other of the Member States, it was decided in 1953 that the Regional Committee should carry out its duties through two sub-committees. While one of these sub-committees has met annually since that date, it has not been possible until this year to arrange for both sub-committees to meet.

Sub-Committee A of the eighth session of the WHO Regional Committee for the Eastern Mediterranean met in Baghdad, Iraq, from 12 to 18 October 1958. Thirteen Member States were represented at the meeting, namely, Ethiopia, France, Iran, Iraq, Italy, Lebanon, Libya, Pakistan, Saudi Arabia, Sudan, Tunisia, the United Arab Republic and the United Kingdom. A number of governmental and non-governmental organizations were also represented. Dr Sabih Al-Wahbi (Iraq) was elected Chairman; Dr Said El Dajany (Libya) and Mr Y. Tseghe (Ethiopia) were Vice-Chairmen.

Sub-Committee B of the same session met in Geneva from 22 to 25 September 1958. The meeting was attended by representatives of the following countries: Ethiopia, France, Iran, Israel, Italy, and the United Kingdom. The United Nations was represented by the Director of the Division of Narcotic Drugs, and observers were present from several non-governmental organizations. The Sub-Committee elected the following officers: Dr M. Faris (Iran), Chairman; Mr Y. Tseghe (Ethiopia), Vice-Chairman. The rules of procedure as adopted by Sub-Committee A at the seventh session of the Regional Committee were adopted as the rules of procedure for Sub-Committee B.

* * *

In his report on regional activities from 1 July 1957 to 30 June 1958, which was presented to both Sub-Committees, Dr A. H. Taba, WHO Regional Director for the Eastern Mediterranean, stated that more than 130 WHO-assisted projects were in operation or planned in the Region, and that over 1000 WHO fellowships had been awarded to health workers from the Eastern Mediterranean countries since 1949, including 196 in 1957 alone.

Of the 191 million inhabitants of the Region, 145 million were still under risk of malaria. The disease had been eradicated from Aden, Cyprus and the Gaza strip and, in the year under review, eradication campaigns in Iran, Iraq, Israel, Lebanon and the United Arab Republic (Province of Syria) had protected 13.5 million out of 20.5 million persons living in malarious areas.

Tuberculosis was becoming increasingly serious in the Region and had spread to a number of rural areas hitherto free from the disease. A team of experts was to visit all the countries of the Region to study the prevalence of tuberculosis and its epidemiological characteristics. A mass BCG campaign was in progress in Pakistan, where more than 25 million persons had undergone tuberculin tests and 9 million had been vaccinated. The value of chemotherapy as applied to two types of tuberculosis patients —those treated in hospital and those treated at home—was being tested in a pilot project in Tunisia.

The Regional Director also spoke of the increasing concern of the Regional Office with bilharziasis which was tending to spread

in the Eastern Mediterranean countries as irrigation projects developed. The incidence of poliomyelitis had also increased in certain countries of the Region, and the Iraqi Government had asked for WHO assistance in a serological survey on which a poliomyelitis vaccination campaign would be based.

During 1957-58, smallpox broke out in Eritrea, Ethiopia, Iran, Iraq, Pakistan, Saudi Arabia, and Sudan. The Regional Office was helping Member States in programmes for producing dried smallpox vaccine, and would shortly conduct a survey on anti-smallpox measures in the Region.

In the discussions on the Regional Director's report, participants in the meetings mentioned a number of points to which they considered special attention should be paid. These included: health education; environmental sanitation; training of personnel for antimalaria and rural health work; extension of maternal and child health and nutrition programmes; training of statistical staff; blood banks; speedier reporting of epidemiological information by governments. Both Sub-Committees noted with satisfaction the greater number of inter-country and inter-regional programmes being undertaken for the strengthening of national health services and for the co-ordination of activities between the Member States of the Region.

The two Sub-Committees endorsed the proposed programme and budget for the Eastern Mediterranean Region for 1960. In addition to an allocation of $1 641 000 from the regular WHO budget, provision is made for the use of $1 434 000 from United Nations Technical Assistance Funds, and $2 665 000 in other extra-budgetary funds. The last sum includes contributions from the Malaria Eradication Special Account, and the assistance which it is expected that UNICEF will make available to the countries of the Region in the form of equipment and supplies.

Technical papers on antimalaria programmes, smallpox control, drug addiction, WHO-assisted tuberculosis control programmes, and vital and health statistics services in the Region were studied by the two Sub-Committees, both of which agreed that, although progress had been made, additional effort and continued WHO assistance were required in all these fields.

The technical discussions at both meetings were on the subject of bilharziasis, which, after malaria, is the most important single public health problem in the Region. Both Sub-Committees urged that the countries of the Region should include bilharziasis control measures in their plans for raising national living standards, and emphasized the need for research on the basic factors involved in the epidemiology of the disease. It was recommended that national programmes against bilharziasis should include pilot projects for the testing of new methods, and that special attention should be paid to the development of evaluation and organizational procedures, and of objective criteria for the measurement of progress. The Sub-Committees also recommended that representatives of public health, irrigation, public works, agriculture, fisheries and community development departments should form committees or councils to deal with the disease. It was decided that Sub-Committee A of the 1959 session would hold technical discussions on the subject of ancylostomiasis. Sub-Committee B will discuss poliomyelitis at next year's session.

Sub-Committee A will hold its 1959 meeting in Alexandria, United Arab Republic, and its 1960 meeting in Tunis. Unless invitations are received from participating governments, the 1959 meeting of Sub-Committee B will be held at WHO Headquarters, Geneva.

Regional Committee for the Western Pacific

The WHO Regional Committee for the Western Pacific held its ninth session in Manila, Philippines, from 26 September to 2 October 1958. The session was attended by representatives from 15 countries in the Western Pacific Region and from 20 international organizations including the United Nations, UNICEF and the South Pacific Commission. The Committee elected the following officers: Dr H. E. Downes (Australia), Chairman; Dr Rya Ozawa (Japan), Vice-Chairman; Dr Tan Hor Kee

(Federation of Malaya), and Dr Thor Peng Thong (Cambodia), Rapporteurs.

The annual report of Dr I. C. Fang, Regional Director for the Western Pacific, covered the period 1 July 1957-30 June 1958. Dr Fang noted a growing interest in comprehensive rather than specialized health programmes throughout the Region and an increasing awareness of the importance of health planning. While the shortage of trained medical and auxiliary staff remained a handicap, there was a growing realization of the need for more trained national counterparts to take over the operation of health projects when the international staff left. During the period under review, 80 fellowships had been awarded by the Regional Office under its regular and technical assistance programmes.

Governments were being encouraged to intensify their antimalaria programmes so that they might be able to switch over from the control of the disease to its eradication. An expansion of these programmes was anticipated thanks to contributions from the Malaria Eradication Special Fund, and progress was being made in the co-ordination of programmes in neighbouring countries.

Antiyaws work in the South Pacific had continued according to plan, and the fall in the incidence of the disease in Fiji, Netherlands New Guinea and Western Samoa had been maintained. BCG vaccination programmes had made satisfactory progress in several countries of the Region, and increasing attention was being paid to leprosy control. In Taiwan (China), the trachoma control campaign was continuing and a poliomyelitis survey was being planned.

The programme and budget estimates endorsed for 1960 provide for the financing of health activities in the Region by allocations of $1 385 000 from the WHO regular budget, $756 000 from United Nations Technical Assistance funds, $1 492 000 from the Malaria Eradication Special Account, and $251 000 from other extra-budgetary funds. The Regional Director was authorized to establish priorities among the various health projects on the programme, taking into account, *inter alia*, the place of each project in the long-term health plans of the country concerned, and its value to neighbouring countries and the Region as a whole.

The Committee endorsed the recommendation of the Eleventh World Health Assembly that the population of all countries where endemic foci of smallpox exist should be vaccinated against the disease during 1959-60, and stressed the need for well-trained staff for this purpose.

The subject of the technical discussions was " Malaria control and eradication ". As antimalaria programmes throughout the Region were expanding, the participants agreed that it was essential to continue the organization of training courses for workers in this field. The importance of obtaining the co-operation of the public in antimalaria programmes by means of health education was emphasized. In a resolution, the Committee drew attention to the dangers of neglecting the administrative side of antimalaria programmes. The subject of next year's technical discussions will be " The control of tuberculosis ".

The Regional Committee for the Western Pacific will hold its tenth session in Taipeh, Taiwan (China).

Studies in laboratory diagnosis

Countries engaged in building up health laboratory services are faced with a choice of diagnostic methods that may prove embarrassing. Methods developed in technically advanced countries are not always suitable for application in those less favourably placed in regard to trained personnel, equipment, or financial resources. With the object of providing guidance for public health authorities, WHO has begun publishing in the Bulletin a series of studies on the laboratory diagnosis of various diseases which, it is hoped, will later be revised and brought up-to-date for publication in monograph form. In an effort to ensure that the diagnostic methods recommended are as internationally representative and acceptable as possible, WHO has secured the co-operation of a number of experts from different countries to

whom the studies are submitted for review before publication.

The first three studies to appear concern the laboratory diagnosis of cholera and of staphylococcal and streptococcal infections. The isolation of the cholera vibrio from stool specimens and its differentiation from related micro-organisms are described in a paper by W. Burrows, Professor of Microbiology at the University of Chicago, and R. Pollitzer of the George Williams Hooper Foundation, University of California (*Bull. Wld Hlth Org.*, 1958, **18**, 275). Identification is based on biochemical reactions, haemolytic activity, and agglutinating properties.

The most important test for the pathogenicity of staphylococci is the coagulase reaction; pigmentation and haemolysis of blood agar are useful supplementary criteria. These and other procedures for the culture and identification of staphylococci are described by J. E. Blair, who is on the staff of the Laboratory Division of the Hospital for Joint Diseases, New York (*Bull. Wld Hlth Org.*, 1958, **18**, 291).

Most streptococcal infections in man are caused by *Streptococcus pyogenes*. R.E.O. Williams, Director of the Streptococcus Reference Laboratory, London, England, describes methods of distinguishing this species from other, non-pathogenic streptococci that are normally present in the mouth and pharynx, and procedures for the serological typing of *Str. pyogenes* (*Bull. Wld Hlth Org.*, 1958, **19**, 153).

The cost of poor water-supplies

Many WHO-assisted projects are hampered by a shortage of adequate water-supplies in the areas where they are operating. Moreover, some government authorities are reluctant to spend money on the improvement of water-supplies, however urgently needed, not realizing that such expenditure often means an indirect saving.

A case in point was recently cited by a WHO team working in a small island in the Western Pacific, where the control and treatment of typhoid costs the authorities roughly between $4500 and $5600 a year. If there were a proper water-supply, this annual outlay could be cut down to less than $500.

The conquest of opium addiction

Delegates to the eighth session of the WHO Regional Committee for the Eastern Mediterranean heard a report by Dr W. F. Ossenfort on recent developments in connexion with opium addiction in the Region, and particularly in Iran.

Before the Anti-Opium Law was passed in October 1955, Iran produced about 1000 tons of opium a year, of which only about 90 tons were exported, and there was no restriction on the use of the drug. It was estimated that about 1 in every 10 Iranians was addicted to opium, though Dr Ossenfort's personal view was that, while the drug was widely used, only about 1% of the population could be considered as genuinely "addiction-prone" and thus liable to complete enslavement by the opium habit.

The Anti-Opium Law banned opium production and established measures to regulate the importation of the drug. It placed responsibility for the treatment of addicts on the Ministry of Health. Of the thousands of persons who voluntarily came forward for treatment, most were treated outside hospital and the remainder in general hospitals or special establishments set up for the purpose. The method of treatment generally used was rapid reduction of the opium intake by the controlled administration of opium pills to both in-patients and out-patients; at a later stage, methadone was used instead of opium for in-patients. For the first day or so, all patients were given enough opium or methadone to control withdrawal symptoms. The intake was then reduced rapidly over a period of 1-3 weeks.

As a result of the law, not only has poppy culture been stopped, but opium smuggling has been suppressed to such an extent that the price of contraband opium is forty times the price of the drug before the ban. The number of addicts has been reduced by more than 80%. Another striking result has been

the marked reduction in the number of cases of acute opium poisoning with suicidal intent. In one city, there were 4 cases a week of suicide, or attempted suicide, by opium poisoning; now the rate is 1 per month. In another city, there were 3 cases a day; now there is 1 a week. Moreover, there has been no increase in suicide attempts by other methods.

It is not anticipated that opium addiction will ever be completely eradicated in Iran. The " hard core " of addicts will no doubt continue to find ways of obtaining the drug, and their treatment will be especially difficult. The general programme of treatment may therefore have to be revised so as to provide for the prolonged hospital care of the remaining addicts, followed by medical and social after-care.

Planning health services in the Americas

The growing emphasis on health planning in the Americas was reflected in the technical discussions at the 1956 and 1957 meetings of the Pan American Sanitary Organization, which dealt respectively with the preparation of national public health plans, and with the evaluation of health programmes. Both discussions made it clear that the solution to a number of public health problems in the Region lies in the establishment of " integrated "—i.e., co-ordinated and unified —health services.[1]

From the beginning, the Pan American Sanitary Bureau (WHO Regional Office for the Americas) has stressed this idea of " integration " in its field projects for the development of health services, the first of which was started in El Salvador in 1950. By the end of 1957, PASB/WHO " integrated" health projects were in operation in Argentina, Bolivia, Colombia, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay and Venezuela.

The PASB/WHO field team usually consists of a medical officer, a public health nurse and a sanitary engineer, who work in co-operation with a national team. Originally, governments were helped to set up demonstration projects embracing the principal health services required by the community. Professional and auxiliary staff trained at these projects were subsequently assigned to local health services in other parts of the country.

More recently, however, national health authorities have been requesting help in the planning and reorganization of public health services at the national, as well as the local, level. Nine PASB/WHO projects are now providing such help (Bolivia, Colombia, Dominican Republic, Ecuador, Guatemala, Honduras, Panama, Paraguay, and Peru); in seven of these, national planning committees or similar bodies have been established.

The training of staff forms an important part of all these projects, which have provided courses for medical officers, nurses, nursing auxiliaries, sanitary inspectors, public health dentists, laboratory technicians and social workers. Fellowships for studies abroad have been awarded to national staff working in the projects.

Finally, to assist governments in planning and developing their health services, PASB/WHO has prepared or is preparing guides on all major aspects of this work, covering such subjects as: the reporting of communicable diseases; smallpox vaccination; public health laboratory standards, etc. Some of these guides have been published, and others have been released to governments; they are constantly revised as newer knowledge becomes available.

Tuberculosis training course

The ninth in a series of international training courses, sponsored by the Turkish Antituberculosis League with the co-operation of the Turkish Ministry of Health and WHO, was held in Istanbul from 8 to 27 September. It was attended by 23 physicians and 12 public health nurses from 14 countries and territories: France, Iran, Israel, Italian Somaliland, Jordan, Lebanon, Libya, Madagascar, Mozambique, Poland, Spain, Tunisia, Turkey and Yugoslavia.

[1] See *Wld Hlth Org. techn. Rep. Ser.*, 1954, **83**, 4.

As in previous courses of the series, the main emphasis was on epidemiology, health education, and the medico-social, preventive and public health aspects of antituberculosis work. Instruction was in two languages: French and Turkish.

Professor Tevfik Saglan and Dr Ismaïl Gökçe were in charge of the course, which was given by three experts provided by WHO: Dr Etienne Berthet, Director-General of the International Children's Centre, Paris; Dr Alice Lotte, Chief of the Tuberculosis Section of the National Institute of Hygiene, Paris; and Mlle Yvonne Turpin, Chief Welfare Officer at the Ministry of Public Health and Population, Paris.

Regional meeting on nutrition

There is little information available on food consumption and the state of nutrition in the Eastern Mediterranean countries; moreover, nutrition programmes in these countries are handicapped by a shortage of staff.

A regional meeting to consider these and related problems was convened by FAO and WHO in Cairo, United Arab Republic, during November. Some 30 participants were invited from the following countries and territories: Iran, Italian Somaliland, Iraq, Jordan, Lebanon, Libya, Morocco, Pakistan, Sudan, Tunisia, United Arab Republic, and Turkey.

The meeting reviewed the nutrition problems of the participating countries and territories, and discussed the possibility of organizing nutrition surveys in the Region. Methods of training both medical and non-medical workers for nutrition programmes and the question of setting up national nutrition organizations were also examined.

The status of the public health engineer

The role of the public health engineer within a national health administration was discussed at the eleventh session of the WHO Regional Committee for South-East Asia, in September. Since his aim in designing, constructing, operating and supervising sanitary works is to strengthen the public health services, his duties cannot be considered simply as those of a works engineer. On the other hand, he cannot be considered as coming wholly under the jurisdiction of the health administration, particularly as health laws and regulations are generally distinct from—and sometimes incompatible with—those governing engineering practice. This uncertainty as to the proper status of the public health engineer is a serious obstacle to efficient health planning, and an issue that must be faced.

Other problems discussed were: the lack of collaboration and mutual understanding between the medical and engineering professions; the salaries and grading of public health engineers; and the shortage of qualified personnel for public health engineering services.

Equipment for schools of nursing

An up-to-date list, with prices, of equipment suitable for a school of nursing had been prepared by WHO. It is intended primarily to guide field nursing staff in selecting essential equipment in accordance with local needs. Assistance in compiling the list has been given by nurses who have had experience in helping to plan and equip schools of nursing in countries other than their own. The list covers equipment for: demonstration and practice rooms; lecture rooms; bacteriological and chemical laboratories; diet kitchens; offices; and libraries. An attempt is made to indicate priorities for purchasing equipment, first priority being given to items needed when a teaching programme starts, and second priority to those which should not be purchased until the teaching staff has had an opportunity to study local needs and facilities.

In its 67 pages, the list gives specifications for 719 items, together with a bibliography on the construction and planning of nursing schools and nurses' residences. At present it is being used experimentally and, pending the introduction of modifications suggested by the users, exists only in mimeographed form.

Atomic energy and society

WHO recently published the report of a Study Group on the Mental Health Aspects of the Peaceful Uses of Atomic Energy,[1] which met in Geneva in 1957. A meeting to consider a closely related subject—the social and moral consequences of the peaceful uses of atomic energy—was held in Paris by UNESCO in September 1958. Professor Hans Hoff of the Psychiatric and Neurological Clinic, University of Vienna, represented WHO as an observer at the meeting, which was attended by scientists and sociologists from some ten countries.

After reviewing the moral and cultural implications of the peaceful uses of atomic energy, and their effect on the structure and development of society, the meeting made recommendations for the future work of UNESCO in this domain.

Social psychiatry and community attitudes

The value of mental health services, whether preventive or curative, is to a great extent dependent on the attitude of the community towards psychiatric patients and their treatment. This is particularly so in the case of modern methods of " social " treatment which keep the patient in touch with the community, e.g., treatment at out-patient departments and " open-door " hospitals.

The WHO Expert Committee on Social Psychiatry and Community Attitudes met in Geneva from 20 to 25 October to discuss attitudes of communities in various parts of the world towards mental patients and psychiatric practice, and to consider ways of fostering favourable attitudes in this connexion. The term " social psychiatry " was defined for the purposes of the meeting as " the treatment and prevention of mental ill-health . . . directed towards fitting the individual for a useful life in his social environment . . . by offering him the necessary opportunities for establishing adequate contacts with society ".

The members of the Expert Committee were: Dr Stjepan Betlheim (Yugoslavia); Dr Robert H. Felix (USA), Chairman; Dr R. H. Hazemann (France); Dr A. S. Manugian (Lebanon); Dr Maxwell Jones (United Kingdom), Rapporteur; Dr T. A. Lambo (Nigeria), Rapporteur; Dr Fernando A. Quirós Madrigal (Costa Rica); and Dr Phon Sangsingkeo (Thailand), Vice-Chairman. Professor Otto Klineberg (USA) acted as consultant to the Committee, and Dr E. E. Krapf (WHO) as Secretary.

Teaching of preventive medicine

WHO is becoming increasingly concerned about the neglect of the preventive aspects of medicine in the curricula of medical schools. Last year, a WHO Study Group discussed ways in which these preventive aspects might be included in the teaching of physiology.[1] More recently, the WHO Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel met to review certain questions arising in the teaching of pathology which can profitably be studied from the preventive standpoint, e.g., radiation injuries, pre-cancerous states, industrial diseases, traumatic injuries, etc.

The members of the Expert Committee, which met in Geneva in October, were: Dr A. P. Avtsyn (USSR); Dr B. Castleman (USA); Dr J. B. Collip (Canada), Chairman; Dr G. H. Cooray (Ceylon), Vice-Chairman; Dr G. Favilli (Italy); Dr H. Hamperl (Germany); Dr G. Payling Wright (United Kingdom); and Dr T. Yoshida (Japan). Dr E. Kohn (WHO) and Dr J. M. Mackintosh (WHO) were Joint Secretaries to the Committee.

Organizing hospital laboratories

The subject of hospital laboratories was discussed by the WHO Expert Committee on Health Laboratory Methods, which met in Geneva from 27 October to 1 November. The different functions of these laboratories according to the type and size of hospital were studied, together with the factors to be taken into account in their organization. The training of personnel and the relationship

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1958, **151**

[1] See *Chron. Wld Hlth Org.*, 1958, **12**, 25.

between hospital laboratories and public health laboratories were also discussed.

The members of the Committee were: Dr J. Desbordes (France), Professor J. Horejsi (Czechoslovakia), Professor V. S. Mangalik (India), Professor J. F. Murray (Union of South Africa), Dr K. B. Rogers (United Kingdom), Professor J. F. Seitz (USSR) and Dr G. Z. Williams (USA). Dr H. Ericsson (Sweden) was consultant to the Committee, and Dr R. Sansonnens (WHO) acted as Secretary.

Recommended requirements for smallpox vaccine

A WHO Study Group met in Geneva, from 3 to 8 November, to formulate requirements for smallpox vaccine which could be internationally recommended. These included control measures to be applied during manufacture, as well as tests of the finished products, and were drawn up so as to fit into the general framework of the series of Recommended Requirements for Biological Substances. The Group also discussed the early establishment of an international reference preparation for smallpox vaccine.

The following experts were invited to take part in the meeting of the Study Group on Recommended Requirements for Smallpox Vaccine: Dr. J. Desbordes (France), Dr. D. G. Evans (United Kingdom), Dr R. Gispen (Netherlands), Dr L. Greenberg (Canada), Dr E. Krag Andersen (Denmark), Dr U. Krech (Switzerland), Dr A. Lafontaine (Belgium), Dr R. Muckenfuss (USA), Dr C. Purana nanda (Thailand), Dr. G. Renoux (Tunisia), Dr R. Sanjiva Rao (India). Dr D. McClean (United Kingdom) and Dr S. S. Marennikova (USSR) were consultants to the Study Group, and Dr N. K. Jerne (WHO) was Secretary.

Study Group on Diarrhoeal Diseases

As the first step in a long-range programme for the control of the diarrhoeal diseases throughout the world, a Study Group on Diarrhoeal Diseases was convened by WHO during November. The task of the Group, which met in Geneva, was to examine present knowledge on the subject, and to review preventive measures and means of reducing the high infant mortality from these diseases. An attempt was also made to arrange the various problems involved in diarrhoeal-disease control in order of priority for the purposes of the programme.

The following experts took part in the meeting: Dr Albert V. Hardy (USA), Dr H. M. Penido (Brazil), Professor J. Sénécal (Sénégal), Dr Joan Taylor (United Kingdom), Dr Dragomir Z. Kacarevic (Yugoslavia), and Professor E. M. Linetskaya-Novgorodskaya (USSR). Dr N. K. Ordway (USA) and Mr D. J. Schliessmann (USA) acted as special consultants to the Study Group. The Secretary was Dr N. Ansari (WHO).

Pesticides and herbicides

The WHO Expert Committee on Specifications and Chemistry of Pesticides met in London, from 19 to 26 November 1958: (*a*) to review the specifications for pesticides established by the Expert Committee on Insecticides in 1954;[1] (*b*) to establish specifications for pesticides developed since that date; (*c*) to consider specifications for some of the newly developed herbicides and make recommendations for their use in public health programmes; and (*d*) to consider other chemical problems, such as the sorption of insecticides on mud walls.

The following experts served on the Committee: Dr M. E. Alessandrini (Italy), Dr H. L. Bami (India), Dr Abdel Aziz Fathi (United Arab Republic), Dr R. A. E. Galley (United Kingdom), Dr E. Paulini (Brazil), Dr G. W. Pearce (USA), and Dr J. Tréboux (Switzerland). Mr J. Wright (WHO) was Secretary to the Committee.

Mental health problems of automation

The effects of automation on the individual worker, the family, the local community and national institutions were discussed by the WHO Study Group on the Mental Health

[1] See: World Health Organization Expert Committee on Insecticides (1956) *Specifications for pesticides. Insecticides, rodenticides, molluscicides and spraying and dusting apparatus.*

Problems of Automation, which met in Geneva, from 10 to 15 November, to study means of preventing or allaying the widespread anxiety aroused by this technical innovation.

The members of the Study Group included psychiatrists, psychologists and human relations experts. They were: Professor C. M. Arensberg (USA), Vice-Chairman; Dr H. C. Ganguli (India); Mr. A. Lucas (France), Rapporteur; Professor V. N. Myasishchev (USSR); Professor A. C. Pachecho e Silva (Brazil); Professor J. Parisot (France); and Dr A. T. M. Wilson (United Kingdom), Chairman. Representatives of ILO and UNESCO were also in attendance. The Secretary to the Study Group was Dr E. E. Krapf (WHO).

People and Places

Production of dried smallpox vaccine

As a result of research carried out under WHO auspices, it is now possible to prepare a high-potency, stable, dried smallpox vaccine capable of standing up to tropical conditions for long periods without losing its efficacy. Dr D. A. Cannon recently spent five weeks as WHO consultant in India and Indonesia, advising laboratories on the production of this vaccine. A graduate of the University of Glasgow and of the London School of Hygiene and Tropical Medicine, Dr Cannon has worked for many years as a pathologist and bacteriologist with the Federal Laboratory Service, Yaba, Nigeria.

Rabies control

As recently as 1956, 149 deaths from rabies were reported in the Americas, and it is possible that the actual number of deaths due to this disease was far higher. One of the main tasks of the Zoonoses Center established by the Pan American Sanitary Bureau (WHO Regional Office for the Americas) at Azul, Argentina, is to co-ordinate efforts for the control of rabies throughout the Region.

Dr Karl Habel, a staff-member of the Center, recently spent six weeks visiting areas in the Region where rabies is a particular problem. During his tour, which took him to Argentina, Brazil, Chile, Panama, and Peru, he had discussions with government health and agricultural authorities, and with heads of health laboratories and institutions, on ways of controlling the disease. Dr Habel is a leading research scientist and authority on rabies. He has served on the WHO Expert Committee on Rabies, and is the originator of the widely used Habel test for virus potency.

Social psychology

As part of its long-term programme for the training of psychiatrists and mental health personnel in general, WHO has begun to examine the place of social psychology in psychiatric studies. Professor Jean Stoetzel, Professor of Social Psychology at the University of Paris, was recently engaged by WHO as a short-term consultant on this question. Educated in France and at Colombia University in the United States, Professor Stoetzel is President of the French Institute of Public Opinion.

Exchange of teachers

As already mentioned in the Chronicle (September 1958), WHO is co-operating in the organization of an exchange programme between members of the teaching staffs of the Institute of Hygiene, University of the Philippines, Manila, and the Johns Hopkins University School of Hygiene and Public Health, Baltimore, Md., USA.

Under this programme, Dr Marcia Mann Cooper has taken one year's leave of absence from her post as Assistant Professor in Mental Hygiene and Public Health at Johns Hopkins University to serve as WHO Lecturer in Mental Health at the University of the Philippines. Dr Cooper is a Doctor in Science of Johns Hopkins University, where she studied child psychology and carried out research on mental hygiene in public health.

Ophthalmologist for Cambodia

For the past five years, WHO has been helping the Royal School of Medicine, Phnom-Penh, Cambodia, to improve its teaching standards and to expand its facilities for the training of hospital assistants. Dr Bernard Lépine has just been appointed WHO consultant in ophthalmology to the School, where he had already worked as medical officer and ophthalmologist in 1956. Before joining WHO, Dr Lépine was Externe des Hôpitaux de Paris, specializing in ophthalmology.

Training of sanitary engineers

Mr A. E. Williamson, of the United States, has been appointed WHO Visiting Professor of Sanitary Engineering at the American University of Beirut,

for a period of two years. In this capacity, he will help to strengthen undergraduate and post-graduate teaching courses in sanitary engineering and the facilities provided for these courses.

Educated at the Universities of Maryland and North Carolina, Mr Williamson has held a number of important posts, including that of Senior Sanitary Engineer of the US Public Health Service. This will not be his first visit to Lebanon, since, from 1952 to 1955, he was Chief Sanitary Engineer of the United States Operations Mission (USOM) to Lebanon, and then Chief of the Mission's Public Health Staff. From 1956 to 1958 he held a similar post in Haiti.

Hospital administration in Malaya

In 1955, the Government of Malaya asked WHO to review the country's system of hospital administration and to establish a school for advanced training in this branch. This school is now about to give its first course under the leadership of Mr E. John Rizos, of the United States. The pupils will be administrators from the seven principal hospitals in the Federation.

Mr Rizos has been administrator of a number of private hospitals in the United States, his last post being with the Hollywood Presbyterian Hospital, Los Angeles.

Public health mission to India

For some time, WHO has been helping the All-India Institute of Hygiene and Public Health, Calcutta, to improve and extend its training services. A team of three experts provided by WHO recently completed a five-weeks' visit to Calcutta to consult with the Director of the Institute on plans for its future development. They were: Dr W. Gaylord Anderson, Mayo Professor and Director, School of Public Health, University of Minnesota; Dr Thomas McKeown, Professor of Social and Preventive Medicine, University of Birmingham; and Dr C. A. Bozman, Director, Wellcome Museum of Medical Science, London.

Planning environmental sanitation programmes

At the Eleventh World Health Assembly, a number of delegates drew attention to the continued lack of adequate environmental sanitation in many parts of the world. The Assembly therefore asked the Director-General to make a comprehensive review of the work of WHO in helping Member States to plan environmental sanitation programmes, with particular reference to the provision or improvement of water-supplies and the adequate disposal of human wastes.

A group of four consultants has now been appointed to prepare this review, which will be submitted to the Twelfth World Health Assembly. They are: Professor Abel Wolman, Professor of Sanitary Engineering at Johns Hopkins University, USA; Mr Clarence W. Klassen, Chief Sanitary Engineer, Department of Public Health, State of Illinois, USA; Mr Walter Sanches, Deputy Director, Special Public Health Service, Brazil; and Mr William E. Wood, Chief Water Engineer, Ministry of Works, Northern Nigeria.

Malaria field appointments

WHO is helping the Government of Sarawak to train personnel for the eventual eradication of malaria from the territory. Dr Ian D. Carter, who has been appointed Medical Officer to the project, comes to this post from the Pan American Sanitary Bureau (WHO Regional Office for the Americas) in Washington, where he has been working as malaria statistician. Dr Carter was educated at the Universities of Adelaide and Sydney, Australia, and has carried out post-graduate studies in England at the Liverpool School of Tropical Medicine and Hygiene, and in the United States at Johns Hopkins University.

Dr Fung Ying Cheng has been chosen as entomologist to a WHO-assisted malaria eradication project, which is to start in Korea in 1959. Dr Cheng was educated in Canton, China, subsequently undertaking post-graduate studies in biology at Harvard University in the United States. Prior to his assignment with WHO, he was Professor of Entomology at the National Taiwan (China) University in Taipeh.

A practical outcome of WHO's efforts to encourage countries with common frontiers to co-ordinate their antimalaria activities has been the establishment of an Antimalaria Co-ordination Board for Burma, Cambodia, Laos, the Federation of Malaya, Thailand and Viet Nam. Dr Wolfgang H. Huehne was recently appointed Secretary to this Board, and took up his duties in October. Educated at the University of Berlin, Dr Huehne subsequently specialized in entomology and parasitology at the Berlin Institute of Tropical Medicine. He has been in charge of antimalaria campaigns in Corsica, Italy and Sardinia, and, prior to his present assignment, was team-leader of the WHO-assisted antimalaria project in Sarawak.

Mr William Tanner has been appointed sanitarian to the WHO-assisted malaria eradication project in North Borneo. Mr Tanner, who recently completed a special WHO course in malaria eradication in London and Iraq, has already served the organization as sanitarian in charge of a rural sanitation project in Afghanistan. A former health inspector

in the Medical Department of the Hong Kong Government, he has also worked as Health Supervisor of the Municipality of Kuala Lumpur, Malaya.

Nursing appointments

Miss Louise Bell has been appointed Nursing Adviser to the WHO Regional Director for Africa, with the task of analysing and assessing nursing and midwifery needs, and advising on nursing education throughout the Region. She will also help to establish guides and criteria for WHO-assisted nursing and midwifery programmes, and advise on the nursing aspects of public health programmes. Miss Bell, who received her Sister Tutor's Diploma from the Royal College of Nursing, London, is a former member of the Nursing Service in Tanganyika, and, since 1952, has been Principal Tutor at the School of Nursing, University College Hospital, Ibadan, Nigeria.

A WHO nursing team is at present in Singapore to help the Government in the planning and development of a post-graduate programme in public health nursing at the Institute of Health. The newest member of the team is Miss Dorothy Goodwin, of the United Kingdom. Miss Goodwin has had considerable training and experience in various branches of nursing and has served as Deputy County Nursing Officer in Cornwall, and as Education Officer at the Queen's Institute of District Nursing, London.

Sanitary engineers for Morocco, Tonga, and Syria

WHO is at present advising the Government of Morocco on the improvement of rural sanitation and the training of public health personnel for health and community development programmes. Mr Raymond Carrié, a sanitary engineer from Haiti, is to assist in the development of this project. Mr Carrié graduated from the Haiti Polytechnic School, and took a post-graduate degree in Sanitary Science at Colombia University, New York. He has had wide experience of various types of rural sanitation work in Haiti, where he has also taken part in the training of sanitarians.

With WHO asistance, the Government of the Kingdom of Tonga is organizing a pilot project for the training of public health workers in environmental sanitation methods and procedures. Mr Howard F. Hoffman, of the United States, took up his duties as sanitary engineer to this project at the end of October. Educated at the Rensselaer Polytechnic Institute, Mr Hoffman was senior public health engineer in the Department of Health of Utica City, New York, before joining WHO.

WHO has undertaken to help the Government of the United Arab Republic with the planning and development of a programme of environmental sanitation for the Province of Syria. Mr Luis Miguel, of Bolivia, has been appointed sanitary engineer to this project. Mr Miguel is a graduate of the Universidad Mayor de San Andrés, La Paz, and has studied sanitary engineering at the University of North Carolina in the United States. He has had extensive experience in the planning, design and construction of water and sewerage systems in his own country, where he served as Chief Engineer of the Hydraulic Section of the Ministry of Public Works, and as Director of the Sewer Department of the Municipality of La Paz.

Health education of the public

In connexion with a five-year plan for the development of public health services in Afghanistan, Miss Emma Carr Bivins has been appointed WHO health education adviser to the Ministry of Health in Kabul. Miss Bivins has served for several years as Director of Education and Information for the American Cancer Society in Raleigh, N.C., USA.

Another WHO health education adviser, Mrs Annie Ray Moore, is at present in India, helping the Government to develop its programme of health education in schools. Mrs Moore, who comes to this assignment from the North Carolina State Department of Public Instruction, USA, has already served WHO as health education adviser in Burma in 1955-56.

New Area Representatives for India and Indonesia

Dr J. F. Castillo, of Chile, has been appointed WHO Area Representative in India. In this capacity, he will keep in touch with the health needs of the country and advise the WHO Regional Director for South-East Asia on the development of schemes for WHO assistance to India. He will co-operate with the Indian Ministry of Health in helping to prepare a co-ordinated WHO-assisted programme from year to year, and will also co-ordinate the activities of individual WHO field workers, of whom there are almost fifty attached to different projects throughout India. Dr Castillo's public health experience extends over a period of more than twenty-five years, during which he has held important positions in the Chilean health services. For the past few years he has been Senior WHO Officer in Ecuador.

Indonesia also has a new Area Representative, in the person of Dr James Deeny, of Ireland, whose duties in Indonesia will be similar to those of Dr Castillo in India. Dr Deeny was educated at

Queens University, Belfast, and the Royal College of Physicians, Dublin, and has been Chief Medical Adviser to the Irish Department of Health for the past fourteen years. He led the Irish delegation at the First and Tenth World Health Assemblies, and has served on the WHO Expert Advisory Panel on Public Health, the Joint FAO/WHO Expert Committee on Nutrition, and the WHO Expert Committee on Auxiliary Dental Personnel.

Changes at WHO Headquarters

The retirement is announced of Dr W. A. Timmerman, Assistant Director-General of WHO in charge of Central Technical Services. Dr Timmerman has been with WHO since 1950, when he was appointed Director of the Division of Therapeutic Substances. He became Assistant Director-General in 1957.

Dr Timmerman has had a long and distinguished career in the fields of bacteriology, biological standardization, and the control of pharmaceutical substances. Born in The Hague in 1893, he studied at the University of Leiden, and worked for several years at the Pasteur Institute of Bandung, Java, subsequently becoming Director of the Netherlands National Institute for Public Health.

* * *

Dr Emilio Pampana, Director of the Malaria Eradication Division at WHO Headquarters, has retired after more than eleven years' service with the Organization. Born in Florence in 1895, Dr Pampana studied at the University of Florence and the London School of Hygiene and Tropical Medicine. He subsequently served in the Health Division of the League of Nations, and as Head of the Department of Epidemiology, Institute of Malariology, Rome. Between 1943 and 1947, he was Director of the Health Bureau of the League of Red Cross Societies. He then joined WHO, serving as Chief of the Malaria Section until 1957 when he was appointed Director of the newly created Division of Malaria Eradication.

Dr Pampana's successor is Dr Carlos A. Alvarado, formerly Chief of Malaria Eradication at the Pan American Sanitary Bureau (WHO Regional Office for the Americas). After taking his M.D. at the University of Buenos Aires, Dr Alvarado studied tropical medicine in Rome and London. He was Director-General of the Department of Malaria and Tropical Diseases in the Argentine Ministry of Health from 1937 to 1949, and was subsequently appointed Director-General of Public Health for North Argentina.

* * *

After more than seven years' service with WHO Headquarters, where he was Chief of the Section of Assistance to Educational Institutions, Dr J. L. Troupin has left to take up an appointment as Associate Director of the Committee on Professional Education, American Public Health Association, New York.

Review of WHO Publications

COMMUNICABLE DISEASES

Bulletin of the World Health Organization, 1958, Volume 19, Number 4 (pages 589-758)

Malaria—or more specifically malaria eradication—is the subject of the first two articles in this issue of the Bulletin. The aim of all the antimalaria campaigns in operation today is to interrupt transmission of the malaria parasite by breaking the weakest link in the epidemiological chain—the mosquito—before anopheline resistance can intervene and threaten the success of the spraying programme. The degree of success achieved so far in Taiwan, where an eradication campaign was begun in 1955, is assessed in the opening contribution—a report prepared jointly by the Taiwan Provincial Malaria Institute and the WHO Malaria Team in Taiwan.[1] The eradication operations now under way in Mexico are being directed by the National Committee for the Eradication of Malaria, which was created at the end of 1955. In their paper, L. Vargas and his co-workers at the Evaluation Office, Public Health Experimental Studies Administration, Government of Mexico, give an outline of the

[1] A summary of this paper appeared in *Chron. Wld Hlth Org.*, 1958, **12**, 73.

organization of this committee and describe the work of the Evaluation Office, which carries out independent analyses and makes recommendations on the operations.

In the case of bilharziasis also, control campaigns aim at breaking the chain of transmission by attacking the intermediate link—in this instance, the snail host of the schistosome. But, as R. C. Muirhead-Thomson points out in his paper, while the last few years have seen heartening advances in the control of malaria, they have witnessed a distressing lack of progress in the control of bilharziasis. In fact, far from being held in check, this disease is being aggravated in many areas by irrigation schemes. The dearth of information on the habitats of the intermediate hosts of the parasite is one of the most serious obstacles to successful control. Muirhead-Thomson reviews the present knowledge of snail ecology in the light of the much more extensive information available on mosquito ecology.

Before a snail-control campaign can be introduced, reliable information on the size and seasonal fluctuations of the snail population in question must be obtained. Obviously, no standard method, applicable to all situations, can be developed for estimating snail populations. The choice of survey technique and sampling device must depend on the objectives of the study, the circumstances in which the work is carried out, the nature of the habitat, and the resources available. N.G. Hairston, B. Hubendick, J.M. Watson & L. J. Olivier present an evaluation of the techniques currently employed.

The relationship between the louse-borne and the tick-borne agents of relapsing fever is little understood. Early in 1955, a study on relapsing fever was carried out in Ethiopia, on behalf of WHO, by Hélène Sparrow, who reports on the results of her mission in the next article. The examination of 15 strains of relapsing-fever spirochaetes, isolated in the high plateau region, showed them all to belong to the louse-borne type, *Borrelia recurrentis*. On the other hand, an investigation in the lowland districts revealed the presence of the tick-borne variety. The author suggests that further research should be conducted to delimit the vast focus of louse-borne relapsing fever in Ethiopia and, through studies in the lowland regions, to determine whether transitional forms between the louse-borne and the tick-borne spirochaetes occur there.

The next three contributions all bear on brucellosis. The first—by S. S. Elberg & K. F. Meyer—summarizes the results of experiments on the isolation, properties and behaviour of a strain of *Brucella melitensis* recently developed at the University of California for use as an immunizing agent. A series of studies in goats, using heat-killed as well as living cells of the strain, showed that the live vaccine was markedly more effective than the killed vaccine.

Knowledge of the different species of the causative organism is essential to the complete understanding of any communicable disease. In the case of the genus *Brucella*, the speciation problem is at present the cause of much confusion in the minds of authorities dealing with both laboratory and field aspects of brucellosis. The conflicting viewpoints are well exemplified in the papers by N. B. McCullough & G. A. Beal and G. Renoux, the former authors maintaining that *Br. melitensis*, *Br. abortus* and *Br. suis* are distinct and stable species, the latter holding that only *Br. melitensis* is a true species, all other strains being merely varieties.

Poliomyelitis is the last subject to be dealt with in this issue of the Bulletin. A few years ago, a comparison of the infant mortality rates and the poliomyelitis case rates in several European and North American countries over a number of years revealed the interesting fact that the rates of the disease usually rose as the infant mortality rate fell. In the final article,[2] J. R. Paul studies the position in Central and South America, and shows that, by and large, the inverse ratio between infant mortality rates and poliomyelitis case rates is holding there also.

The list of contents will be found in the advertising section at the end of this number of the Chronicle.

[2] A summary of this article appeared in *Chron. Wld Hlth Org.* 1958, **12**, 343.

ARTICLES AND STUDIES ON THE WORLD HEALTH ORGANIZATION 1946-1957

Since early 1947, the Chronicle has kept its readers regularly informed of the more important aspects of the work of the World Health Organization. As a WHO publication, the Chronicle naturally reflects the facts as seen from within the Organization. During the same period, however, there have been a great many other publications on WHO, which have discussed international health work from a more or less independent point of view. On the occasion of the tenth-anniversary year of WHO, a bibliography of such works—books, theses, articles, and important editorials—has been prepared by the Organization's Library and Reference Section. This list of articles and studies on WHO, which is reproduced below, covers the period from 1946 to the end of 1957. Publications of the United Nations and specialized agencies, including WHO, are excluded,[1] as well as reviews of WHO publications, reports of meetings, news items, reproductions of WHO press releases and similar material. It is hoped that readers of the Chronicle will find valuable sources of reference in the publications mentioned below.[2]

1. Aims and functions of the World Health Organization. *Munic. Eng.* 1955, **132**, 346-348

2. ALBERT, H. A. W.H.O. wages spectacular war on disease. *Board Trade J. (Toronto)*, 1952, **42**, No. 8, 13-15

3. ALBERT, H. A. The war against disease. *Fam. Doctor*, 1952, **2**, 193-195

4. ALDAY REDONNET, T. La Farmacopea Internacional desde el punto de vista sanitario. *Rev. Sanid. Hig. públ. (Madr.)*, 1952, **26**, 67-80

5. ALLEN, C. E. World health and world politics. *Int. Org.* 1950, **4**, 27-43

6. ALSTED, G. World Health Organization og dens arbejde. *Ugeskr. Laeg.* 1949, **111**, 409-410

7. ALVAREZ DEL VAYO, J. Health knows no frontiers. *Nation*, 1949, **169**, 460-461

8. ALVEZ DINIZ, F. Le Bureau régional de l'Europe de l'Organisation mondiale de la Santé. *Rev. Infirm. Assist. soc.* 1956, **6**, 372-376

9. AMYOT, R. Réalisations et projets de l'O.M.S. *Un. méd. Can.* 1950, **79**, 737-738

10. ANDREWES, C. H. Work of World Influenza Centre. *J. roy. Inst. publ. Hlth*, 1952, **15**, 309-318

11. ANWAR, S. Kesehatan gigi dan W.H.O. *Mad jalah Kedokteran Indonesia*, 1956, **6**, 33-44

12. ASCHER, C. S. Current problems in the World Health Organization's program. *Int. Org.* 1952, **6**, 27-50

13. ASCHER, C. S. Chisholm of W.H.O. *Survey*, 1952, **88**, 70-73

14. AUGUSTINE, D. L., WELLER, T. H. & THOMAS, R. A. Importance of tropical public health to world peace. *Postgrad. Med.* 1953, **13**, 339-343

15. BAGGALLAY, O. Nursing in the World Health Organization. *Int. Nurs. Bull.* 1950, **6**, No. 1, 9-10

16. BAGGALLAY, O. W.H.O. nurses in Peru and El Salvador. *Amer. J. Nurs.* 1954, **54**, 1234-1235

17. BAGGALLAY, O. Our nurses serve the world. *Canad. Nurse*, 1954, **50**, 281-283

18. BARTHE, R. Organisation internationale du Travail et Organisation mondiale de la Santé devant la médecine du travail. *Concours méd.* 1955, **77**, 2987-2988

19. BAUER, T. J. Half century of international control of venereal diseases. *Publ. Hlth Rep. (Wash.)*, 1953, **68**, 779-787

[1] Material published by WHO itself is covered in: World Health Organization (1958) *Publications of the World Health Organization, 1947-1957 : a bibliography* (see *Chron. Wld Hlth Org.*, 1958, **12**, 286).

[2] Every effort has been made to make this list as complete as possible, but additions and corrections will be welcome and should be addressed to: Library and Reference Section, World Health Organization, Palais des Nations, Geneva, Switzerland.

20. BEDWELL, M. E. W.H.O. in print. *Spec. Libr.* 1957, **48**, 183-186

21. BEGG, N. D. W.H.O. in Europe, with particular reference to work in public health fields. *Publ. Hlth (Lond.)*, 1954, **68**, 43-47

22. BERG, C. VAN DEN. Het tuberculose-vraagstuk bij de Wereldgezondheidsorganisatie. *Tegen Tuberc.* 1950, **46**, 85-86

23. BERG, C. VAN DEN. Geestelijke gezondheidszorg in de Wereldgezondheidsorganisatie. *Maandbl. geest. Volksgezondh.* 1951, **6**, 249-253

24. BERG, C. VAN DEN. L'Organisation mondiale de la Santé et les administrations communales. *I.U.L.A. Bull. — Bull. de l'U.I.V.* 1954, **6**, 1-4

25. BERG, C. VAN DEN. De Wereldgezondheidsorganisatie en de voeding. *Voeding*, 1957, **18**, 300-302

26. BERGMAN, R. Världshälsoorganisationen. *Social-med. T.* 1949, **26**, 203-205

27. BERKER, M. Istanbul est le siège du premier centre antituberculeux de perfectionnement et de démonstrations créé dans le monde avec la collaboration de l'O.M.S. *Sem. Hôp. Paris*, 1952, **28**, 2411-2414

28. BERKOV, R. *The World Health Organization: a study in decentralized international administration.* Genève, Droz, 1957, 173 p. (*Etudes d'histoire économique, politique et sociale*, 19). Thèse.

29. BERMÚDEZ PAREJA, M. La Organización Mundial de la Salud. *Rev. Sanid. Hig. públ. (Madr.)*, 1947, **21**, 1029-1032

30. BERMÚDEZ PAREJA, M. La lucha contra las enfermedades venéreas. *Rev. Sanid. Hig. públ. (Madr.)*, 1949, **23**, 637-645

31. BERMÚDEZ PAREJA, M. *Sanidad internacional. Organización Mundial de la Salud (O.M.S.)*. Madrid, Dirección General de Sanidad, 1956, 162 p. (*Colección de folletos para médicos, sobre temas de carácter sanitario*, 49)

32. BERMÚDEZ PAREJA, M. Organización Mundial de la Salud (O.M.S.). *Rev. Sanid. Hig. públ. (Madr.)*, 1956, **30**, 143-179

33. BERTHET, E. The campaign against tuberculosis and the World Health Organization. La lutte antituberculeuse à l'Organisation mondiale de la Santé. *Bull. Un. int. Tuberc.* 1950, **20**, 476-515

34. BERTHET, E. Mission et réalisations de l'Organisation mondiale de la Santé. *J. Méd. Lyon*, 1950, **31**, 399-403

35. BERTHET, E. Une expérience de lutte antituberculeuse de l'O.M.S. L'activité du Centre antituberculeux de Formation d'Istanbul (Turquie). *J. Méd. Lyon*, 1951, **32**, 739-741

36. BERTHET, E. Un centre antituberculeux de formation est créé en Méditerranée orientale. *Techn. hosp.* 1951, **6**, juin, 42-45

37. BERTHET, E. The Centre of Professional Training and Antituberculosis Demonstrations at Istanbul. Le Centre antituberculeux de Perfectionnement et de Démonstration de l'O.M.S. à Istanbul. *Bull. Un. int. Tuberc.* 1952, **22**, 324-333

38. BERTHET, E. et al. Organization and functionment of an antituberculosis training and demonstration center. *Acta tuberc. scand.* 1952, **27**, 303-313

39. BERTRAND, P. La situation des "membres inactifs" de l'O.M.S. *Annu. franç. Droit int.* 1956, **2**, 602-615

40. BIRAUD, Y. The international control of epidemics. *Brit. med. J.* 1950, **1**, 1046-1050

41. BIRAUD, Y. L'organisation internationale de la santé. In: *Semaine sociale de France, 38e session, Montpellier, 1951, Santé et société ... compte rendu in extenso*, Lyon, Chronique sociale de France, 1951, pp. 133-151

42. BIRAUD, Y. Epidemiological aspects of the work of the World Health Organization. *Proc. roy. Soc. Med.* 1951, **44**, 905-909

43. BIRAUD, Y. L'Organisation mondiale de la Santé. *Chron. soc. France*, 1953, **61**, 164-170

44. BLAIN, E. Organisation mondiale de la Santé (O.M.S.). *Un. méd. Can.* 1956, **85**, 947-950

45. BLANC, P. Les dénominations communes internationales des médicaments. *Bull. Féd. int. pharm.* 1950-51, **24**, 138-147

46. BLANC, P. The relations between W.H.O. and F.I.P. *Pharm. J.* 1955, **175**, 297-298

47. BLANC, P. A propos de la Pharmacopée internationale; identification et détermination de la qualité des médicaments. *Bull. Inst. nat. genevois*, 1957, **59**, 206-208

48. BLENKINSOP, A. World health. *R. Soc. Prom. Hlth J.*, 1957, **77**, 472-473

49. BONNE, W. M. W.H.O. activities in the field of leprosy. In: *Congresso Internazionale per la Difesa e la Riabilitazione Sociale del "Lebbroso", organizzato dal Sovrano Militare Ordine di Malta, 16-18 Aprile 1956, Atti e memorie*, Roma, Ed. mediche e scientifiche, 1956, vol. 1, pp. 27-32

50. BOSCH, H. W.H.O. and environmental health. *Publ. Hlth Rep. (Wash.)*, 1952, **67**, 370-375

51. BOUDREAU, F. G. International health. 6. Our stake in world health. *Amer. J. publ. Hlth*, 1951, **41**, 1477-1482

52. BOUDREAU, F. G. Meeting world health problems. 4. The need for money resources. *Publ. Hlth Rep. (Wash.)*, 1952, **67**, 329-332

53. BOYER, J. Une modification dans la lutte contre les maladies pestilentielles exotiques: l'établissement par l'O.M.S. du Règlement sanitaire international. *Presse méd.* 1951, **59**, 1529-1530

54. BRADY, F. J. Central technical services of the World Health Organization. *Publ. Hlth Rep. (Wash.)*, 1957, **72**, 101-104

55. BRAVO, A. L. La Organización Mundial de la Salud. *Bol. méd.-soc. (Santiago)*, 1951, **18**, No. 177, 7-10

56. BROCKINGTON, F. The World Health Organization (W.H.O.). In: Wortley, B.A. ed. *The United Nations : the first ten years*, Manchester, Manchester University Press, 1957, pp. 130-149

57. BRUCE, F. E. *The World Health Organization and its work in environmental sanitation. A paper presented at a meeting of the Institution of Public Health Engineers at Caxton Hall, Westminster, London, S.W. 1, on Thursday, 18th of October 1956.* London, 1956 (?), 25 p.

58. BUCKLE, D. Das Mental-Health Programm der Weltgesundheitsorganisation in Europa. *Prax. Kinderpsychol.* 1956, **5**, 178-181; *Z. psycho-som. Med.* 1956, **3**, 59-63

59. BURGESS, R. C. W.H.O. and nutrition, *Proc. Nutr. Soc.* 1956, **15**, 13-21

60. BUSTAMANTE, M. E. Influencia de la Organización Mundial de la Salud en el ejercicio de la medicina. *Pren. méd. mex.* 1957, **22**, 134-142

61. BUSTOS, A. J. *La Organización Mundial de la Salud.* Santiago de Chile, Impr. "Cultura", 1946, 35 p.

62. BUURMAN, O. Gesundheitspflege als Aufgabe der Weltpolitik. *Öff. Gesundh.-Dienst*, 1949, **11**, 257-265

63. BUURMAN, O. Völkerverbindender öffentlicher Gesundheitsdienst. *Volksgesundh.-Dienst*, 1950, **1**, 29-31

64. BUURMAN, O. Gesundheitspflege als Aufgabe der Weltpolitik. *Öst. Ärzteztg*, 1956, **11**, 322-328

65. CALDER, R. Nurse Pepper on shikari. *New Statesman & Nation*, 1952, **43**, 294-295

66. CALDER, R. *Men against the jungle.* London, Allen & Unwin, 1954, 231 p.

67. CALDER, R. World Health Organization. Humanity's greatest adventure. *J. amer. med. Wom. Ass.* 1955, **10**, 385-386

68. CALDER, R. Mutant virus. *New Statesman & Nation*, 1957, **54**, 8-10

69. CALDERONE, F. A. World Health Organization. *Food Drug cosmet. Law Quart.* 1947, **2**, 373-381

70. CALDERONE, F. A. Health of all peoples. *Amer. J. Nurs.* 1948, **48**, 4-6

71. CALDERONE, F. A. W.H.O. and W.M.A.; some points in common. *Brit. med. J.* 1948, **2**, 610-611

72. CANDAU, M. G. La santé: une responsabilité internationale; la misère: son ennemi public numéro 1. *Démocratie combattante (Paris)*, 1953, sept.-oct., 47-50

73. CANDAU, M. G. W.H.O. — prospects and opportunities: the road ahead. *Amer. J. publ. Hlth*, 1954, **44**, 1499-1504

74. CANDAU, M. G. W.H.O. and the modern concept of public health. *Indian med. J.* 1954, **48** (med.-polit. suppl.) 135-137; *Indian med. Rec.* 1955, **75**, 55-58

75. CANDAU, M. G. World health and world peace. *J. Amer. med. Wom. Ass.* 1955, **10**, 223-225

76. CANDAU, M. G. L'objet des travaux et la portée des projets actuels de l'O.M.S. *Brux. méd.* 1956, **36**, 851-861

77. CANDAU, M. G. Some aspects of international health work. *J. Amer. med. Wom. Ass.* 1956, **11**, 246-250

78. CANDAU, M. G. Some aspects of W.H.O.'s work in 1955. *S. Afr. med. J.* 1956, **30**, 75-78

79. CANDAU, M. G. World health catalysts. *Amer. J. publ. Hlth*, 1957, **47**, 675-681

80. CARPENTIER, R. Les origines et les tâches de l'Organisation mondiale de la Santé. *Sem. méd. (Paris)*, 1951, **27**, 294-301

81. CAVAILLON, A. Sur l'Organisation mondiale de la Santé. *Arch. Méd. soc.* 1947, **3**, 69-81

82. CAVAILLON, A. et al. L'organisation de la protection de la santé publique sur le plan international. *Bull. Acad. nat. Méd. (Paris)*, 1947, **131**, 43-45

83. CHAGAS, A. W. The work of W.H.O. in Latin America. *Amer. J. Nurs.* 1953, **53**, 410-411

84. CHAGAS, A. W. Nursing in the Americas. *Nurs. Outlook*, 1953, **1**, 690-692

85. CHAUSSINAND, R. W.H.O. and leprosy. *Int. J. Leprosy*, 1952, **20**, 115-116

86. CHELLAPPAH, S. F. The World Health Organisation and environmental sanitation. *People's Hlth*, 1950, **4**, 359-361, 366

87. CHISHOLM, B. World health. In: *Peace on earth*, New York, Hermitage House, 1949, pp. 89-98

88. CHISHOLM, B. The World Health Organization. *Brit. med. J.* 1950, **1**, 1021-1027

89. CHISHOLM, B. World Health Organization. *Extern. Affairs*, 1950, **2**, 135-138

90. CHISHOLM, B. Médecine sociale et Organisation mondiale de la Santé. *Praxis*, 1950, **39**, 916-918

91. CHISHOLM, B. W.H.O.'s battle for a better world. *Think*, 1950, **16**, No. 9, 3-4, 29

92. CHISHOLM, B. Is the World Health Organization succeeding in its work? In: Pollak, S. W. ed. *Uphill*, London, United Nations Association, 1951, pp. 25-32

93. CHISHOLM, B. International health. 2. The role of W.H.O., past, present and future. *Amer. J. publ. Hlth*, 1951, **41**, 1460-1463

94. CHISHOLM, B. The World Health Organization. L'Organisation mondiale de la Santé. La Organización Mundial de la Salud. *World med. Ass. Bull.* 1951, **3**, 83-84, 109-110, 133-134

95. CHISHOLM, B. & BODSWORTH, C. F. *The people's health, Canada and W.H.O.* Toronto, Associated printers, 1949, 19 p. (*Behind the headlines*, vol. 9, No. 2)

96. CLARK, R. N. The work of W.H.O. *Sanitarian (Lond.)*, 1955, **64**, 53-55

97. CLEMENTS, F. W. The W.H.O. nutrition program. *J. Amer. med. Wom. Ass.* 1951, **6**, 258-260

98. CLEMENTS, F. W. The W.H.O. in Southern Asia and the Western Pacific. *Pacific Affairs*, 1952, **25**, 334-348

99. COMMISSION TO STUDY THE ORGANIZATION OF PEACE. *Uniting the nations for health.* New York, The Commission, 1947, 63 p.

100. COOK, E. F. The International Pharmacopoeia: its evolution and its role in world health. *Bull. Amer. Soc. Hosp. Pharm.* 1955, **12**, 120-124

101. Co-operating for health. *Times*, 1954, 7 April, p. 9

102. CORNET, F. L'infirmière à l'Organisation mondiale de la Santé. *Rev. Infirm. Assist. soc.* 1954, **4**, 341-342

103. CRABOL, J. *L'Organisation mondiale de la Santé.* Grenoble, 1951, 106 l. Thèse.

104. CREELMAN, L. Relationship between the World Health Organization and professional nursing. *Nurs. Times*, 1953, **49**, 1085-1087; *Int. Nurs. Rev.* 1954, **1**, 35-41

105. CREELMAN, L. World Health Organization nurses stationed in distant and isolated posts help to improve health standards in nursing around the world. *Nurs. Wld*, 1954, **128**, December, 7-9

106. CREELMAN, L. Developments in nursing in the World Health Organization. In: *Yearbook of modern nursing, 1956*, New York, Putnam, 1956, pp. 381-382

107. CRÉNÉS, R. J. *Géographie et politique sanitaire internationale.* Bordeaux, Barbezieux, 1953, 80 p. Thèse.

108. CULBERTSON, J. T. Plans for United States co-operation with the World Health Organization in the international influenza study program. *Amer. J. publ. Hlth*, 1949, **39**, 37-43

109. CUTLER, J. C. The venereal disease programme of the World Health Organization. The Simla Training Centre and Demonstration Area. *Indian med. Gaz.* 1950, **85**, 22-24

110. DAWES, J. C. World health. *Munic. Eng.* 1949, **124**, 143-146

111. DEBRÉ, R. L'Organisation mondiale de la Santé et l'enfance. *Presse méd.* 1951, **59**, 663-664

112. DECKENBROCK, W. Das internationale Arzneibuch. *Dtsch. Apotheker-Ztg.* 1953, **93**, 674-676

113. DEUTSCHLAND. STATISTISCHES BUNDESAMT. *Die Statistik in den internationalen Organisationen. Heft 1: Weltorganisationen.* Wiesbaden, Kohlhammer, 1955, pp. 20-25

114. DIX, E. & DIX, H. Die Weltgesundheitsorganisation als Inspiration. *Gesundheitsfürsorge*, 1955, **5**, 140-143

115. DOLS, M. J. L. De samenwerking tussen F.A.O. en W.H.O. op het gebied van de voeding. *Voeding*, 1957, **18**, 302-305

116. DOROLLE, P. La santé, problème mondial. *Presse méd.* 1951, **59**, 661

117. DOROLLE, P. L'Organisation mondiale de la Santé. *Ann. Centre univ. méditer. (Nice)*, 1952, **5**, 109-120

118. DOROLLE, P. L'Organisation mondiale de la Santé. In: *Somme de médecine contemporaine*, Paris, Editions médicales, 1955, vol. 4, pp. 241-252

119. DOULL, J. A. The World Health Organization. *Int. J. Leprosy*, 1946, **14**, 110-115

120. DUBOIS, C. The World Health Organization in a world of changing values. *News Bull. Instit. int. Educ. (N.Y.)*, 1952, **28**, No. 1, 5-9

121. DUNHAM, E. C. Die Frühgeburten als Weltgesundheitsproblem. *Schweiz. med. Wschr.* 1950, **80**, 745-749

122. DUNHAM, E. C. Premature birth as world health problem. *Pediatrics*, 1951, **7**, 262-268

123. Dünya saglik günü münasebetiyle çikarilan. Özel sayi. *Sağl. Derg.* 1949, **23**, 1-56

124. EDBORG, K. Med Verdens Helseorganisasjon (W.H.O.) B.C.G. team i Malaya. *Sykepleien*, 1951, **38**, 168-171

125. ELIAS, E. Die Weltgesundheitsorganisation. Was sie will. Wie es begann. Wie sie arbeitet. *Berl. Gesundhbl.* 1950, **1**, 86-88

126. ELIOT, M. M. United action for world health. *Survey Graphic*, 1948, **37**, 394-396, 407-408

127. ELIOT, M. M. Advisory services of the World Health Organization. *Brit. med. J.* 1950, **1**, 1027-1032

128. ELIOT, M. M. World Health Organization stimulates governments to improve maternal and child health. *Child*, 1950, **15**, 44, 53

129. ELIOT, M. M. The problems and needs of maternal and child health as viewed by the W.H.O. La protection de la maternité et de l'enfance vue par l'Organisation mondiale de la Santé. *Int. Hlth Bull.* — *Bull. int. Hyg.* 1950, **2**, No. 3, 5-9

130. EVANG, K. Det internasjonale helsearbeid. *Nord. Med.* 1947, **36**, 2171-2178

131. EVANG, K. Hvordan arbeider Verdens Helseorganisasjon? *Världshorisont*, 1949, No. 2, 10-13

132. EVANG, K. Psykiatriens plass i det internasjonale helsearbeid. *Nord. psykiat. Medlemsbl.* 1950, No. 1, 13-18

133. FALES, W. T. & MORIYAMA, I. M. International adoption of principles of morbidity and mortality classification. *Amer. J. publ. Hlth*, 1949, **39**, 31-36

134. FANG, I. C. W.H.O. in the Western Pacific Region. *J. Amer. med. Wom. Ass.* 1954, **9**, 280-281

135. FANG, I. C. The W.H.O. and nursing in the Western Pacific. *Philipp. J. Nurs.* 1956, **25**, 105-107, 139

136. FERREIRA, F. S. DA C. The fight against nonvenereal treponematoses in Africa. *J. Amer. med. Wom. Ass.* 1957, **12**, 205-208

137. FERREIRA, M. J. The structure, functions and aims of the World Health Organization. *Int. Nurs. Rev.* 1954, **1**, 27-34

138. FISCHER, H. Pharmacopoea internationalis. Editio prima. *Schweiz. Ärzteztg*, 1953, **34**, 287-288

139. FLÜCK, H. Neues von der Pharmacopoea Internationalis. *Schweiz. Apoth.-Ztg*, 1950, **88**, 781-787

140. FORREST, W. P. The task of the W.H.O. *Listener*, 1948, **40**, 6-7

141. FORREST, W. P. Health aspects of international approaches to problems of undeveloped areas. *Milbank mem. Fd Quart.* 1948, **26**, 280-291

142. FORREST, W. P. The World Health Organization and social welfare. In: *Proceedings of the National Conference of Social Work, Atlantic City, 1948*, New York, Columbia Univ. Press, 1949, pp. 40-47

143. FORSSMAN, S. World Health Organization and occupational health. *Brit. J. industr. Med.* 1951, **8**, 206-208

144. FORSSMAN, S. Om Världshälsoorganisationens verksamhet. *Hyg. Revy*, 1956, **45**, 373-374

145. FORSSMAN, S. Världshälsoorganisationen och vattenhygienen. *Hyg. Revy*, 1957, **46**, 3-4

146. FRANCE. MINISTÈRE DE LA SANTÉ PUBLIQUE ET DE LA POPULATION. *Bilan de dix années de coopération sanitaire internationale, 1945-1955*, Paris, 1956, 70 p. (*Bulletin d'information du Ministère de la Santé publique et de la Population*, No. 1)

147. FRANCISCIS, V. DE. L'azione dell'Organizzazione Sanitaria Mondiale (World Health Organization) per la lotta antitubercolare. *Arch. Tisiol.* 1951, **6** (Sez. varia), 91-93

148. GEAR, H. S. The World Health Organization. New York Conference, 1946. *S. Afr. med. J.* 1946, **20**, 515-517

149. GEAR, H. S. Developments in the World Health Organisation. *S. Afr. med. J.* 1949, **23**, 608-612

150. GEAR, H. S. World Health Organization and the Palais des Nations, Geneva. *Nurs. Times*, 1955, **51**, 377-378, 383-384

151. GEAR, H. S. Some principles and methods of international health work. *Brit. med. J.* 1956, **2**, 471-475

152. GENDEREN, H. VAN. De Wereldgezondheidsorganisatie en de biologische standaardisatie in het bijzonder op het terrein van de vitamines. *Voeding*, 1957, **18**, 361-366

153. GERARD, G. H. Race against time. *Wld Veteran (Paris)*, 1957, **6**, June, 12-15

154. GIAQUINTO, M. Onchocerciasis: a new field of activities. *J. Amer. med. Wom. Ass.* 1955, **10**, 226-230

155. GILBERTSON, W. E. World health affairs. *Sanitarian (Los Angeles)*, 1952, **14**, 215-220.

156. A good beginning [Mental health section of W.H.O.]. *Times*, 1954, 14 December, p. 9

157. GOODMAN, N. M. World Health Organization and its Interim Commission. *Lancet*, 1946, **2**, 358-359

158. GOODMAN, N. M. Nursing and the W.H.O. *Amer. J. Nurs.* 1949, **49**, 134-136

159. GOODMAN, N. M. L'Organisation mondiale de la Santé dans le Proche Orient. *Monde et la Croix-Rouge*, 1949, **30**, 10-11

160. GOODMAN, N. M. The World Health Organization in the Near East. *Red Cross World*, 1949, **30**, 10-11

161. GOODMAN, N. M. *International health organizations and their work*. London, Churchill, 1952, 327 p.

162. GRASSET, E. Immunisation contre les maladies contagieuses de l'enfance dans le cadre de l'Organisation mondiale de la Santé. *Méd. et Hyg. (Genève)*, 1949, **7**, 283-284

163. GRASSET, E. La standardisation biologique dans le cadre international de l'Organisation mondiale de la Santé. *Méd. et Hyg. (Genève)*, 1952, **10**, 202-203

164. GRIN, E. I., GUTHE, T., PAYANANDHA, L., D'MELLO, J. M. F. & SWAROOP, A. S. The treponematosis control program of the World Health Organization; the treatment of yaws with benzathine penicillin G. *Amer. J. Syph.* 1954, **38**, 397-404

165. GRZEGORZEWSKI, E. Światowa Organizacja Zdrowia. *Zdrow. publ.* 1948, **64**, No. 1/2, 72-79

166. GUÉNIOT, M. L'Organisation mondiale de la Santé. *Sem. méd. prof. méd.-soc.* 1954, **30**, 169-171

167. GUÉNIOT, M. L'Organisation mondiale de la Santé. *Rev. Infirm. Assist. soc.* 1955, **5**, 227-229

168. GUEULLETTE-GAVRIL, N. L'action sanitaire internationale. *Sem. méd. prof. méd.-soc.* 1955, **31**, 1065-1073

169. GUTHE, T. Lutte contre les tréponématoses dans le cadre de l'O.M.S. *Proph. antivénér.* 1950, **22**, 384-388

170. GUTHE, T. Lutte contre les tréponématoses dans le cadre de l'O.M.S. In: *Colloque international sur la syphilis, Paris, 1950*, Paris, Impr. Tancrède, 1951, pp. 14-17

171. GUTHE, T. World health and treponematoses. *J. soc. Hyg.* 1951, **37**, 182-186

172. GUTHE, T. & REYNOLDS, F. World health and treponematoses. *Brit. J. vener. Dis.* 1951, **27**, 1-19

173. HABERNOLL, A. Die internationalen Gesundheitsvorschriften der Weltgesundheitsorganisation. *Öff. Gesundh.-Dienst*, 1956, **18**, 79-85

174. HAMBURG. UNIVERSITÄT. FORSCHUNGSSTELLE FÜR VÖLKERRECHT UND AUSLÄNDISCHES ÖFFENTLICHES RECHT. *Weltgesundheitsorganisation (W.H.O.) und internationale Gesundheitsordnung*. Frankfurt am Main, Metzner, 1952, 42 p. (*Dokumente*, Heft 6)

175. HAMPSHIRE, C. H. The International Pharmacopoeia of the World Health Organization. *Bull. Féd. int. pharm.* 1950-51, **24**, 123-129

176. HAMPSHIRE, C. H. Pharmacopoea internationalis. A world pharmacopoeia. *Pharm. J.* 1951, **167**, 437-438

177. HAMPSHIRE, C. H. The first international pharmacopoeia. *Amer. J. Pharm.* 1952, **124**, 64-68

178. HASSELMANN, C. M. Aims and activities of the World Health Organization, especially in South-East Asia. *O.S.R. News*, 1951, **3**, 222-224

179. HASSELMANN, C. M. Public health control of syphilis and yaws (Frambesia tropica) with special reference to international W.H.O./U.N.I.C.E.F. assisted program in Indonesia. *Amer. J. Syph.* 1953, **37**, 151-155

180. HAZARD, R. La Pharmacopée internationale. *Presse méd.* 1951, **59**, 665-667

181. HEMMING, J. *Mankind against the killers*. London, Longmans, 1956, 231 p.

182. HEMMING, J. *La humanidad contraataca*. Versión española de A. Aldama. Madrid, Editorial Alhambra, 1957, 267 p. (*Colección enciclopédica Alhambra*, Sección 11, No. 16)

183. HESSLING, H. C. De Wereldgezondheidsorganisatie. *T. Ziekenverpl.* 1956, **9**, 69-74

184. The highest possible level. *Canad. Nurse*, 1950, **46**, 523-524

185. HILL, E. The World Health Organization nursing programme in the Western Pacific Region. *Int. Nurs. Bull.* 1953, **9**, No. 1, 11-14

186. HILLEBOE, H. E. What W.H.O. means to us. *Publ. Hlth Rep. (Wash.)*, 1955, **70**, 1069-1074

187. HÖJER, G. World health and the I.C.N. *Bull. Calif. Nurs. Ass.* 1950, **46**, 370-375; *Int. Nurs. Bull.* 1951, **7**, No. 1, 11-14

188. HÖJER, J. A. Perspektiv på W.H.O. och världen från indisk horisont. *Världshorisont*, 1954, **8**, No. 3, 3-8

189. HÖRING, F. O. Aus der Arbeit der Weltgesundheitsorganisation für die Bekämpfung der Infektionskrankheiten. *Dtsch. med. Wschr*, 1952, **77**, 247-249

190. HOLM, J. The work of W.H.O. in the field of tuberculosis. *Berita Kementerian Kesehatan Republik Indonesia*, 1957, **6**, 12-23

191. HOOD, R. I. La Organización Mundial de Sanidad. *Rev. Sanid. Hig. Públ. (Madr.)*, 1952, **26**, 202-205

192. HORINE, F. Public health in Asia; the personal impressions of a public information officer. *J. trop. Med. Hyg.* 1956, **59**, 175-179

193. HOWARD-JONES, N. International medical documentation and the World Health Organization. *Bull. med. Libr. Ass.* 1953, **41**, 191-197

194. HYDE, H. VAN Z. World Health Organization. Progress and plans. *Dep. State Bull. (Wash.)*, 1948, **18**, 431-440

195. HYDE, H. VAN Z. Challenges and opportunities in world health. *Dep. State Bull. (Wash.)*, 1948, **19**, 391-398

196. HYDE, H. VAN Z. The nature of the World Health Organization. *Publ. Hlth Rep. (Wash.)*, 1953, **68**, 601-605

197. HYDE, H. VAN Z. W.H.O., the catalyst in international health. *Publ. Hlth Rep. (Wash.)*, 1955, **70**, 887-892

198. El interés de la O.M.S. en los progresos sobre la rabia. *Rev. Sanid. Hig. públ (Madr.)*, 1952, **26**, 233-238

199. International technical assistance in public health. *Publ. Hlth Rep. (Wash.)*, 1952, **67**, 333-357

200. IZANT, H. A. The World Health Organization library service. *Libr. Trends*, 1952, **1**, 240-243

201. IZANT, H. A. The World Health Organization and medical librarianship. *Libri (Copenhagen)*, 1954, **3**, 9-16

202. IZANT, H. A. Documentation activities of the W.H.O. library. *Rev. Docum.* 1957, **24**, 73-74

203. KAPLAN, M. M. W.H.O. progress in brucellosis. *C.D.C. Bull.* 1951, **10**, No. 8, 8-11

204. KAPLAN, M. M. Work of W.H.O. in brucellosis. *J. Amer. med. Wom. Ass.* 1951, **6**, 255-257

205. KAPLAN, M. M. The work of the World Health Organization (W.H.O.) and Food and Agriculture Organization (F.A.O.) in brucellosis. In: *Atti del VI Congresso Internazionale di Microbiologia, Roma, 1953*, Roma, A. Staderini, 1955, vol. 6, pp. 163-169

206. KAPLAN, M. M. The concept of veterinary public health and its application in the World Health Organization. In: *15th International Veterinary Congress, Proceedings*, Stockholm, Gernandt, 1953, Part 1, vol. 2, pp. 1124-1132

207. KAPLAN, M. M. The World Health Organization and veterinary public health. *Proc. U.S. Livestock sanit. Ass.* 1954, **58**, 342-346

208. KEY, D. M. World security and the World Health Organization. *Dep. State Bull. (Wash.)*, 1954, **31**, 616-619

209. KHAUM, A. Die Rolle der Weltgesundheitsorganisation bei der Bekämpfung der Geschlechtskrankheiten. *Mitt. öst. Sanit.-Verwalt.* 1951, **52**, 109-111

210. KHAUM, A. Die Bedeutung der Weltgesundheitsorganisation für Österreich. *Vereinte Nationen und Österreich*, 1954, **3**, März, 3-6

211. KJELLBERG, K. Reflectioner och erfarenheter från fem års arbete i W.H.O. *Världshorisont*, 1955, **9**, No. 5, 16-19

212. KJERMAN, Å. W.H.O.'s arbetsprogram för 1950. *Världshorisont*, 1949, No. 7, 23-25

213. KOŻUSZNIK, B. Swiatowa Organizacja Zdrowia. *Zdrow. publ.* 1949, **65**, No. 5/6, 9-17

214. KRAG, P. W.H.O. og bekaempelsen af treponematoserne. *Nord. Med.* 1955, **54**, 1756-1757

215. KRAPF, E. E. The promotion of mental health by international organizations. In: Brockington, F. ed. *Mental health and the world community*, London, World Federation for Mental Health, 1957, pp. 106-110

216. KRAPF, E. E. The work of the United Nations and the specialized agencies in relation to mental health. 3. World Health Organization. In: *Mental health in home and school. Papers presented at the ninth annual meeting of the World Federation for Mental Health, Berlin, Germany, August 1956*, London, 1957 (?), pp. 262-264

217. LAËT, M. DE. La lutte contre les maladies vénériennes et les tréponématoses par l'Organisation mondiale de la Santé. *Presse méd.* 1951, **59**, 667-668

218. LAËT, M. DE. La santé, facteur mondial de la paix. *Brux.-méd.* 1952, **32**, 362-364

219. LAËT, M. DE & SAND, R. L'Organisation mondiale de la Santé. *Arch. belges Méd. soc.* 1946, **4**, 287-297; *Brux. méd.* 1946, **26**, 1231-1240; *Proph. antivénér.* 1947, **19**, 68-77

220. LEAHY, K. M. Nursing and the World Health Organization. *Publ. Hlth. Nurs.* 1952, **44**, 185-186

221. LEVINE, S. Z. Some impressions of teaching medical missions of World Health Organization. *New Engl. J. Med.* 1954, **251**, 813-816

222. LEVY, D. L'Organisation mondiale de la Santé. *Rev. int. Histoire polit. constitut.* 1954, **4** (janvier-mars), 64-79

223. LOGHEM, J. J. VAN. 's werelds gezondheid. *Ned. T. Geneesk.* 1946, **90**, 1024-1026

224. LOGHEM, J. J. VAN. De Gezondheidsorganisatie der Verenigde volken. *Ned. T. Geneesk.* 1950, **94**, 2158-2161

225. MCDOUGALL, J. B. The World Health Organization and tuberculosis. *Brit. med. J.* 1949, **2**, 379-380

226. MCDOUGALL, J. B. The World Health Organization and tuberculosis: aims, objects and accomplishments. *Amer. Rev. Tuberc.* 1951, **64**, 218-222

227. MCDOUGALL, J. B. Le rôle de l'O.M.S. dans la lutte contre la tuberculose. *Acta phtisiol.* 1952, No. 1, 3-7

228. MCDOUGALL, J. B. International problems in tuberculosis control. *J. Amer. med. Wom. Ass.* 1952, **7**, 245-247

229. MCDOUGALL, J. B. The World Health Organization tuberculosis project in Cairo (in association with the Egyptian Government 1952-1955). *Egypt. J. soc. Med.* 1956, **1**, 20-29

230. MACKENZIE, M. D. The World Health Organization. *Brit. med. J.* 1946, **2**, 428-430

231. MACKENZIE, M. D. International collaboration in health. *Int. Affairs*, 1950, **26**, 515-521

232. MACKENZIE, M. D. Nurses and world health. *Nurs. Times*, 1951, **47**, 117-118

233. MACLEAN, F. S. The World Health Organization and its work. *N.Z. med. J.* 1953, **52**, 469-474

234. McWEENEY, E. J. T. The World Health Organization and tuberculosis in India. *J. Amer. med. Wom. Ass.* 1955, **10**, 231-233

235. MAGNUSSEN, E. Sygeplejerskerådgiver ved World Health Organizations Kontor for Mellemøsten. *T. Sygepl.* 1952, **52**, 35-47, 57

236. MALAN, R. M. L'Organizzazione Mondiale della Sanità e la medicina del lavoro. *Notiz. Ammin. sanit.* 1953, **6**, 317-324

237. MALAN, R. M. La Organización Mundial de la Salud y la higiene ocupacional. *Rev. San. Hig. públ. (Madr.)*, 1953, **27**, 707-715

238. MALAN, R. M. W.H.O. survey of the medico-social field. *J. Amer. med. Wom. Ass.* 1957, **12**, 45-50

239. MANEVY, J. Il est quatre heures, docteur Malaria. *Réalités*, 1956, No. 122, 48-55

240. MANI, C. International health. 4. Application of W.H.O. programs and policies in a region. *Amer. J. publ. Hlth*, 1951, **41**, 1469-1472

241. MANI, C. Health services in S.E. Asia forge ahead. *Social Welf.* 1954, **1**, No. 9, 38-39

242. MANUILA, A. Calea organizaţiei mondiale a sănătăţii a fost trasată. *Bul. eugen. şi biopol.* 1947, **18**, No. 5/8, 142-152

243. MANUILA, A. World Health Organization publications. *J. Amer. med. Wom. Ass.* 1955, **10**, 242-244

244. MANUILA, A. The physician's stake in W.H.O. *Hlth News (Albany, N.Y.)* 1956, **33**, No. 6, 4-17

245. MARTIKAINEN, A. H. The role of W.H.O. in health education. *Hlth Educ. J.* 1952, **10**, 167-172

246. MARTIKAINEN, A. H. The work for world health. *Hlth Educ. J.* 1955, **13**, 239-245

247. MARTIKAINEN, A. H. Education for health. Work of World Health Organization in many lands. *Nurs. Mirror*, 1955, **102**, i, 44

248. MARTIKAINEN, A. H. World goals in health education of the public. *Amer. J. publ. Hlth*, 1957, **47**, 852-855

249. MARTIKAINEN, A. H. & BUTTERWORTH, T. H. World health destiny — creative responsibility of all the people. In: *Health educators at work*, Chapel Hill, N.C., Department of Public Health Education, School of Public Health, University of North Carolina, 1952, pp. 1-7

250. MAYSTRE, J. Pharmacopée internationale. *Schweiz. Ärztezig*, 1954, **35**, 62-63

251. MELKI, L. Un exemple de coopération transnationale: l'Organisation mondiale de la Santé. *Rev. méd. liban.—Leb. med. Rev.* 1949, **2**, 40-47, 65-70

252. Mental health on a global scale. *Amer. J. publ. Hlth*, 1949, **39**, 662-663

253. MESSINEZY, D. A. Fellowships, a part of the education and training programme of W.H.O. *J. Amer. med. Wom. Ass.* 1957, **12**, 216-218

254. METAXA, A. W.H.O. nursing project in Iran. *Nurs. Times*, 1956, **52**, 83-84

255. MILES, A. A. International biologic standards and World Health Organization. *J. Amer. pharm. Ass., sci. Ed.* 1953, **42**, 226-235

256. MILLER, L. C. How the new International Pharmacopoeia will raise world drug standards. *Pharm. Int.* 1952, **6**, No. 4, 34-36

257. MILLER, L. C. The current status of the International Pharmacopoeia. *Milit. Med.* 1955, **116**, 409-412

258. MISGELD, E. M. Die Welt-Gesundheits-Organisation (W.H.O.). *Berl. med. Z.* 1951, **2**, 192-194, 234-236

259. MOJIĆ, A. Osnovni principi i preporuke eksperata Svetske Zdravstvene Organizacije za zaštitu materinstva. *Narod. Zdrav.* 1953, **9**, 41-43

260. MORIN, H. G. S. L'œuvre antipalustre de l'Organisation mondiale de la Santé dans l'Orient dit méditerranéen (E.M.R.). *Riv. Malar.* 1953, **32**, 189-202

261. MUDALIAR, A. World Health Organization. *Int. Concil.* 1953, No. 491, 235-259

262. NUZZOLILLO, L. L'azione internazionale in campo sanitario nella sua evoluzione storica: l'Organizzazione Mondiale della Sanità. *Riv. ital. Igiene*, 1955, **15**, 329-342

263. O'BRIEN, H. R. The World Health Organization and global nutrition. *J. Amer. diet. Ass.* 1947, **23**, 85-89

264. L'Organisation mondiale de la Santé. *Un. méd. Can.* 1949, **78**, 1210-1223

265. L'Organisation mondiale de la Santé: structure, fonctions et activités de 1946 à 1950. *Documentation française. Notes et études documentaires*, 1951, 17 janvier, No. 1421, 1-79

266. OS, D. VAN. Problèmes scientifiques et pratiques posés par l'élaboration et l'utilisation d'une pharmacopée internationale. *Bull. Féd. int. pharm.* 1950-51, **24**, 130-137

267. OSBORNE, A. S. W.H.O. — Report from the United States. *Amer. J. publ. Hlth*, 1954, **44**, 1505-1508

268. PAMPANA, E. J. Malaria as a problem for the World Health Organization. In: *Proceedings of the Fourth International Congresses on Tropical Medicine and Malaria, Washington, May 10-18, 1948*, Washington, Department of State, 1948, vol. 1, pp. 940-946

269. PAMPANA, E. J. The eradication of malaria. *J. Amer. med. Wom. Ass.* 1952, **7**, 248-250

270. PARISOT, J. L'Organisation mondiale de la Santé et la formation professionnelle dans le domaine de la médecine et de la santé publique. *Presse méd.* 1951, **59**, 662-663

271. PARRAN, T. Charter for world health. *J. Amer. med. Ass.* 1946, **131**, 1207-1208; *Publ. Hlth Rep. (Wash.)*, 1946, **61**, 1265-1268

272. PARRAN, T. World Health Organization. *Yale J. Biol. Med.* 1947, **19**, 401-410

273. PARRAN, T. & BOUDREAU, F. G. The World Health Organization: cornerstone of peace. *Amer. J. publ. Hlth*, 1946, **36**, 1267-1272

274. PATERSON, G. R. A review of the Internationa Pharmacopoeia. *Canad. pharm. J.* 1952, **85**, 28-30

275. PAYNE, A. M.-M. The work of W.H.O. on virus and rickettsial diseases. *J. Amer. med. Wom. Ass.* 1953, **8**, 228-231

276. PAZ SOLDÁN, C. E. *La O.M.S. y la soberanía sanitaria de las Américas*. Lima, Instituto de Medicina Social de la Universidad Mayor de San Marcos, 1949, 262 p.

277. PEMBERTON, D. A. World Health Organization and the development of occupational health. *Nurs. Times*, 1953, **49**, 864-867

278. PERCY, D. M. Signpost at Geneva. *Canad. Nurse*, 1956, **52**, 790-798

279. PERKINS, J. E. The World Health Organization. *J. dent. Med.* 1955, **10**, 107-115

280. PERLMAN, D. U.N.'s merciful war. *Collier's*, 1950, **125**, Jan. 28, 24-25

281. PERLMAN, D. United Nations campaign for health. *Modern Rev. (Calcutta)*, 1951, **89**, 55-59

282. PESONEN, N. Maailman terveysjärjestö eli W.H.O. *Suom. Lääk.-L.* 1957, **12**, 884-892

283. PIEDROLA GIL, & BRAVO OLIVA, J. Sanidad internacional y Organización Mundial de la Salud. *Med. colon.* 1955, **26**, 5-23

284. PINHO, B. DE. A Organização Mundial da Saúde e os problemas de alimentação e nutrição. *Bol. Serv. Saúde públ. (Rio de J.)*, 1957, **4**, 267-285

285. PLOYÉ, M. Critique du rapport de la 3e session du Comité des experts sur le paludisme. *Rev. Palud.* 1949, **7**, 251-257

286. Progress toward a world health organization. *Publ. Hlth Rep. (Wash.)*, 1947, **62**, 225-248

287. The promotion of world health. *Brit. med. J.* 1954, **1**, 923-924

288. PRUNEDA, A. La Organización Mundial de la Salud. *Gac. méd. Méx.* 1947, **77**, 140-154

289. RAOUX, M. *L'Organisation mondiale de la Santé et les aspects juridiques de sa fonction épidémiologique*. Bordeaux, Impr. Sammarcelli, 1955, 58 p. Thèse.

290. RASMUSSEN, H. B. Fifty years' endeavour to create an international pharmacopoeia. *Bull. Féd. int. pharm.* 1950-51, **24**, 20-28

291. REED, L. J. Local responsibility for world health. *Amer. J. publ. Hlth*, 1950, **40**, 1363-1367

292. REYBAZ, G.-J. Les assises mondiales de la Santé. *Le Monde*, 1948, 27 juillet, p. 3

293. REYNOLDS, F. W. & GUTHE, T. Non-venereal treponematosis; a world health problem of underprivileged children. *J. Amer. med. Wom. Ass.* 1951, **6**, 251-254

294. RIBEIRO, A. P. *A Organização Mundial de Saúde*. Macau, Tip. Soi Sang, 1956, 23 p.

295. RIPLEY, I. L. The nurses' contribution to world health. *Nurs. Wld*, 1956, **130**, No. 10, 11-16

296. ROEMER, M. I. & DA COSTA, O. L. Occupational health activities and objectives of the World Health Organization. *A.M.A. Arch. industr. Hyg.* 1953, **7**, 111-117

297. ROGERS, E. S. Program and progress of World Health Organization. *J. Amer. diet. Ass.* 1950, **26**, 15-20

298. ROSEBERY, H. Un ennemi: le paludisme. Une arme: la coopération sanitaire internationale. *Arch. Méd. soc.* 1949, **5**, 199-204

299. ROSS, J. L'Organizzazione Sanitaria Mondiale. *Jus Gentium (Roma)*, 1952, **4**, 144-146

300. ROUTLEY, T. C. World Health Organization. *Canad. med. Ass. J.* 1946, **55**, 383-390

301. ROWE, D. P. Better health for all. *Hygeia*, 1947, **25**, 458, 460

302. ROWLETT, A. E. *Presidential address* [*Relationship between the International Dental Federation and the World Health Organization*]. Leicester, Jeays, 1949, 16 p.

303. ROY, K. B. The World Health Organization. *Modern Rev. (Calcutta)*, 1950, **87**, 234-236

304. RUSSELL, P. F. Malaria control activities. *J. nat. Malar. Soc.* 1950, **9**, 14

305. RUSSELL, P. F. International preventive medicine. *Sci. Monthly*, 1950, **71**, 393-400

306. SACKS, M. R. Widening horizon in public health; W.H.O.'s work in India. *Statesman (Calcutta & New Delhi)*, 14 November 1956, special supplement

307. SALMON, M. Un bilan de la santé mondiale (D'après la dernière Assemblée de l'Organisation mondiale de la Santé). *Synthèses (Bruxelles)*, 1953, **8**, No. 87-88, 49-54

308. SAMUELS, G. U.N. comes to an Indian village; Singur health center. *N.Y. Times Mag.* 1955, June 12, 17

309. SAND, R. The World Health Organization. *Survey Graphic*, 1946, **35**, 352-353

310. SAUTER, A. Die Weltgesundheitsorganisation: Ziel und Weg. *Dtsch. med. J.* 1956, **7**, 611-615

311. SAUTER, A. Die Weltgesundheitsorganisation und wir. *Z. Präv.-Med.* 1957, **2**, 282-286

312. SCHEELE, L. A. Public health and foreign policy. *Ann. Amer. Acad. pol. soc. Sci.* 1951, **278**, 64-72

313. SEBELIUS, C. L. The dental health programme of the World Health Organization. *Bull. Amer. Ass. publ. Hlth Dentists*, 1957, **17**, No. 4, 9-11

314. SHARP, W. R. The new World Health Organization. *Amer. J. int. Law*, 1947, **41**, 509-530

315. SHIMKIN, M. B. World Health Organization. *Science*, 1946, **104**, 281-283

316. SHOUSHA, A. T. Activities of the World Health Organization in the Eastern Mediterranean Region. *Amer. J. publ. Hlth*, 1954, **44**, 18-25

317. SIMMONS, S. W. Insecticides and world health. W.H.O. Expert Committee on Insecticides. *Publ. Hlth Rep. (Wash.)*, 1952, **67**, 451-454

318. SIMPSON, W. M. Attacking the cancer problem on a worldwide front via the World Health Organization of the United Nations. *Acta Un. int. Cancr.* 1950, **6**, 1460-1463

319. SØRENSEN, B. World Health Organization; Verdens Sundhedsorganisationen. *T. Sygepl.* 1954, **54**, 21-31, 36

320. SOKHEY, S. S. Therapeutic substances in their international aspects. *Brit. med. J.* 1950, **1**, 1037-1046

321. SOPER, F. L. International health. 3. Some aspects of the W.H.O.'s programs in the Americas. *Amer. J. publ. Hlth*, 1951, **41**, 1464-1468

322. SOUZA, G. H. DE P. *A Organização mundial de saúde*. Rio de Janeiro, Impr. nacional, 1948, 56 p. (Brazil. Ministério das Relações Exteriores. Serviço de publicações. *Documentos*, No. 5)

323. SPILLMANN, A. La lutte contre les maladies vénériennes dans le cadre de l'Organisation mondiale de la Santé; conceptions, realisations et projets. In: *VII^me Congrès des Dermatologistes et Syphiligraphes de Langue française, Bruxelles-Liège, 21-23 avril 1949, Communications et Discussions*, Bruxelles, Impr. Lielens, 1949, t. 2, pp. 144-150

324. SPILLMANN, A. Allocution. In: *Union internationale contre le péril vénérien. Assemblée générale, 1949. Texte des rapports*, Paris, Impr. Tancrède, 1950, pp. 69-72

325. STOCKS, P. Medical statistics and world health. *Brit. med. J.* 1950, **1**, 1044-1046

326. STOCKS, P. The international aspect of medical records. In: *Proceedings of the first International Congress on Medical Records, London, 1952*, London, Ash, 1952, pp. 29-33

327. STRACK, J. The W.H.O. dental health program, part 1-4. *Tic (Albany, N. Y)*, 1957, **16**, No. 3, 12-14; No. 4, 14-16; No. 5, 14-16; No. 6, 8-10

328. STUCKEY, R. E. Pharmacopoea internationalis. *J. Pharm. Pharmacol.* 1953, **5**, 401-404

329. TAYLOR, D. Maternal and child health planning on an international basis. *Int. Women's News — Nouvelles fém. int.* 1949, **43**, 154-155

330. THOMSON, W. A. R. The International Pharmacopoeia. *Practitioner*, 1952, **168**, 166-170

331. TICE, L. F. The International Pharmacopoeia. *Amer. J. Pharm.* 1950, **122**, 168-169

332. TIMMERMAN, W. A. The work of the World Health Organization. *Pharm. J.* 1951, **166**, 121-122, 141-143

333. TOTTIE, M. W.H.O. — Världshälsovårdsorganisationen. *Soc. Medd.* 1955, **65**, 438-442

334. TOTTIE, M. Hälsan, ej blott frånvaro av sjukdom. *Världshorisont*, 1955, **9**, No. 2, 14-15

335. TRAVASSOS, A. DA S. Organização Mundial da Saúde (breve descritivo). *Bol. clin. Hosp. Lisboa*, 1949, **13**, 627-645

336. TRIANTAPHYLLOU, T. Syntomos ekthesis epi tōn ergasiōn tēs D' Pagkosmiou Syneleuseōs Hygeias. *Arch. Hyg. (Athinai)*, 1951, **2**, 160-170

337. TRUDEAU, R. A. A W.H.O. team goes to Syria. *Amer. J. Nurs.* 1957, **57**, 1160-1162

338. TULI, R. L. W.H.O. and Afghanistan. *J. Amer. med. Wom. Ass.* 1953, **8**, 217-227

339. UDELL, F. N. Environment, health and peace. *Nurs. Times*, 1952, **48**, 80-81

340. UNITED STATES CONGRESS. HOUSE. COMMITTEE ON FOREIGN AFFAIRS. *Special Study Mission on International Organizations and Movements; report by C.E. Merrow, chairman, et al.* Washington, U.S. Government Printing Office, 1954 (83rd Cong. 2nd session), pp. 27-42

341. United States Public Health Service. Division of International Health. *In observance of World Health Day, April 7, 1952. United States participation in international health programs.* Washington, 1952, 39 p.

342. Urrutia, C. A. La Organización Mundial de la Salud. *Acción soc.* 1948, **15**, Nos. 129-131, 25-31

343. Ustvedt, H. J. Den internasjonale tuberkulosekampanje. *T. norske Lægeforen.* 1949, **69**, 58-59

344. Verhoestraete, L. [Maternal and child health activities of the World Health Organization.] *Pediatrics*, 1951, **7**, 591-601

345. Verhoestraete, L. W.H.O. maternal and child health programme. *J. Amer. med. Wom. Ass.* 1952, **7**, 243-244

346. Verhoestraete, L. L'Organisation mondiale de l'hygiène de la maternité et de l'enfance. In: *Somme de médecine contemporaine*, Paris, les Editions médicales, 1955, vol. 4, pp. 43-56

347. Visscher, W. With W.H.O. in the Philippines. *Amer. J. Nurs.* 1952, **52**, 429-430

348. Volckringer, J. L'unification des pharmacopées. *Ann. pharm franç.* 1949, **7**, 215-231

349. Wade, H. W. The I.L.A. and the W.H.O. *Int. J. Leprosy*, 1950, **18**, 525-529

350. Wade, H. W. The World Health Organization and leprosy. *Int. J. Leprosy*, 1953, **21**, 78-82

351. Wehberg, H. Internationale Zusammenarbeit auf dem Gebiete des Gesundheitswesens. *Friedens-Warte*, 1947, **47**, No. 3, 144-151

352. Where there's a will, there's a W.H.O. way. *J. soc. Hyg.* 1952, **38**, 231-238

353. Wigmore, E. The World Health Organization Library. *Brit. med. J.* 1950, **1**, 1050-1051

354. Williams, C. D. The World Health Organization and the training of personnel in maternal and child health. *Int. Child Welf. Rev.* 1949, **3**, 195-200

355. Williams, C. D. World Health Organization. Maternal and child health work. *J. Amer. med. Wom. Ass.* 1949, **4**, 285-286

356. Williams, C. D. The work of W.H.O. and the maternal and child health section. *J. med. Wom. Fed.* 1950, April, 18-22

357. Williams, L. L. jr. The World Health Organization. *Sth. med. J. (Bgham, Ala.)*, 1947, **40**, 66-72

358. Williams, L. L. jr. & Stowman, K. The world campaign against malaria. *Mosquito News*, 1951, **2**, 1-7

359. Wilson, C. M. *One half the people ; doctors and the crisis of world health.* New York, Sloane Associates, 1949, pp. 253-271

360. Winckel, C. W. F. Comments on the report of the third session of the Expert Committee on Malaria of the World Health Organization. *Docum. neerl. indones. Morb. trop.* 1950, **2**, 208-224

361. Winckel, C. W. F. Commentaires sur le rapport de la troisième session du Comité des Experts du Paludisme de l'Organisation mondiale de la Santé, tenue au Palais des Nations à Genève, du 10 au 18 août. *Rev. Palud.* 1950, **8**, 276-280

362. Winslow, C.-E. A. World Health Organization: program and accomplishments; with introduction by B. Chisholm. *Int. Concil.* 1948, No. 439, 111-145

363. Winslow, C.-E. A. International health. 1. Introductory remarks. *Amer. J. publ. Hlth*, 1951, **41**, 1455-1459

364. Winslow, C.-E. A. International co-operation in the service of health. *Ann. Amer. Acad. polit. soc. Sci.* 1951, **273**, 192-200

365. Wolff, E. & Bayer, L. M. The American physician and world health. *J. Amer. med. Ass.* 1954, **156**, 1150-1151

366. Wolff, P. O. The activities of the World Health Organization in drug addiction. *Brit. J. Addict.* 1953, **50**, 12-28

367. Wolff, P. O. Aperçu sur divers problèmes de la toxicomanie. In: *Somme de médecine contemporaine*, Paris, Editions médicales, 1955, vol. 4, pp. 80-87

368. The work of the World Health Organization expert committees. *Publ. Hlth Rep. (Wash.)*, 1952, **67**, 358-369

369. World health. *Med. ill. (Lond.)*, 1951, **5**, 51-52

370. World health campaign. *Economist (Lond.)*, 1950, **158**, 1114

371. The World Health Organization. *Publ. Hlth Rep. (Wash.)*, 1946, **61**, 1259-1264

372. World Health Organization. *Curr. Notes int. Affairs*, 1949, **20**, 600-609

373. World Health Organisation. *Int. Women's News — Nouvelles fém. int.*, 1949, **43**, 138-140

374. W.H.O. *Lancet*, 1950, **1**, 1041-1042

375. W.H.O. *Soc. Serv. Rev.* 1951, **25**, 241

376. The World Health Organization. *Irish J. med. Sci.* 1955, **16**, 243-250

377. The World Health Organization. *Nature (Lond.)*, 1955, **176**, 494

378. World Health Organization; aims and functions. *World Today*, 1950, **6**, 386-394

379. W.H.O. and cholera in Egypt. *Amer. J. publ. Hlth*, 1948, **38**, 274

380. The World Health Organization and its relationships with non-governmental organizations. *Bull. N.G.O.-O.N.G.* 1953, **5**, 500-503

381. The W.H.O. and nurses. *Nurs. Outlook*, 1954, **2**, 123

382. The W.H.O. in South-East Asia. *United Asia*, 1952, **4**, 105-106

383. W.H.O.'s work for mental health. *Brit. med. J.* 1956, **1**, 795

384. The world's health. *Spectator*, 1948, September 3, 296-297

385. WRIGHT, J. W. A world wide cooperative program on insect resistance to insecticides. *Mosquito News*, 1957, **17**, 137-143

386. YELNIK, C. Organisation mondiale de la Santé. *France Illust.* 1953, 25 avril, No. 393, 564-568

387. YUAN, I-CHIN & PALMER, C. E. The W.H.O. Tuberculosis Research Office. A review of the first four years. *Publ. Hlth Rep. (Wash.)*, 1953, **68**, 678-686

CORRIGENDUM

Vol. 12, No. 9

UNTOWARD REACTIONS TO PENICILLIN

Page 301, left-hand column, line 15

delete antibodies
insert antibiotic

COMMUNICABLE DISEASES

Introduction

Malaria control and eradication in Taiwan: progress report, May 1952-June 1957—*Taiwan Provincial Malaria Institute & WHO Malaria Team in Taiwan*

Organization and evaluation of the malaria eradication campaign in Mexico during the first year of complete coverage—*Luis Vargas, Guillermo Román y Carrillo & Arturo Almaraz Ugalde*

The ecology of vector snail habitats and mosquito breeding-places: the experimental approach to basic problems—*R. C. Muirhead-Thomson*

An evaluation of techniques used in estimating snail populations—*Nelson G. Hairston, Bengt Hubendick, John M. Watson & Louis J. Olivier*

Etude du foyer éthiopien de fièvre récurrente — *Hélène Sparrow*

Caprine immunization against brucellosis: a summary of experiments on the isolation, properties and behaviour of a vaccine strain—*Sanford S. Elberg & K. F. Meyer*

The biological stability of the genus *Brucella*—*N. B. McCullough & G. A. Beal*

Considérations sur la notion d'espèce dans le genre *Brucella* — *G. Renoux*

Endemic and epidemic trends of poliomyelitis in Central and South America—*John R. Paul*

BULLETIN OF THE WORLD HEALTH ORGANIZATION

Vol. 19, No. 4, 170 pages

Price: **10/— $2.00** Sw. fr. **6.—**

Monograph Series No. 38

A. W. A. BROWN

INSECTICIDE RESISTANCE IN ARTHROPODS

Preface • Nature and characterization of resistance Taxonomic groups characteristically vectors to man The housefly • Taxonomic groups characteristically not vectors to man • References

240 pages; 29 figures • **£1 5s. $5.00 Sw. fr. 15.**— (clothbound)

WORLD HEALTH ORGANIZATION

INTERNATIONAL STANDARDS FOR DRINKING-WATER

Preface • Introduction • Bacteriological requirements Chemical and physical requirements • Biological requirements • Radiological requirements • Laboratory facilities for the examination of water • Research investigations • Annexes • References

152 pages • **£1 $4.00 Sw. fr. 12.**— (clothbound)

INDEX

ABDUSSALAM, M., 351
Accidents in childhood, 351
ACHAM, R. A., 211
Addiction-producing drugs, 86, 132, 261, 387-388
ADRANVALA, T. K., 388
Aëdes aegypti eradication, Carribbean area, 400-401
  United States of America, 377-378
Aëdes polynesiensis, biological control, 383
Africa, malaria, 157-160, 319
  public health planning, 170
  Regional Committee, 409-410
  tuberculosis, 353
  WHO activities in 1957, 261
AHUJA, M. L., 350, 386
Air pollution, 14-16, 407-409
Airports, international, sanitation, 96
Alcoholism, mortality, 347-349
ALESSANDRINI, M. E., 421
ALEXANDER, L. T., 387
Allergy, BCG-induced, 57-58
  penicillin, 154-155, 297-298
ALVARADO, C. A., 425
ALVES, W., 60, 320
Americas, decentralization of health work, 304-306, 400-402
  diarrhoeal disease, 193-194
  food and drug problems, 126-128
  health services, planning, 418
  insecticide resistance, 351-352
  leprosy, 352
  malaria, 309-312
  Regional Committee, 410-411
  WHO activities in 1957, 261
AMIN, H., 82
Anaemia, 405
  iron deficiency, 387
Anaesthesiology centre in Copenhagen, 69-72
Ancylostoma duodenale, 346
Ancylostomiasis, *see* Hookworm disease
ANDERSEN, ELSE KRAG, 5, 6, 421
ANDERSEN, E. W., 69
ANDERSON, ELDA E., 37, 38
ANDERSON, W. G., 423
ANDREWES, C. H., 385
Annual Report of the Director-General, 225-230, 254-262
Anopheles stephensi, resistance to DDT, 94, 207
Anophelines, exophily, 81-82
ANOUTI, J., 224
ANSARI, N., 421
Antibiotics, in the preparation of smallpox vaccine, 4
  new standards, 203-204
Antibodies, new standards, 204-205
Antigens, new standards, 204
ANWAR, S., 386
ARANGO, A. J., 410
ARBONA, G., 410
ARENSBERG, C. M., 422
Arthropods, insecticide resistance, 212-213
Articles and studies on the World Health Organization, 427-438
Ascariasis, 346
ASHTON, FAY, 98
ASHURKOV, E. D., 388
Atherosclerotic lesions, classification, 89-90, 132-135
Atomic energy, 253
  and health, 233-235, 260
  and mental health, 379-382, 420
AUBENQUE, M. J., 386
AUJALEU, E. J. Y., 253
AUJOULAT, L. P., 409
Automation and mental health, 421-422
Auxiliary dental personnel, 318
AVERY-JONES, S., 142
AVTZYN, A. P., 420
AXIBAL, TEÓFILA R., 143

BABUDIERI, B., 124
BAENST, N. DE, 383
BAGGESGAARD RASMUSSEN, H., 350
BAIDYA, R., 411
BALTAZARD, R., 386
BAMI, H. L., 421
BANGHAM, D. R., 386
Barbados, public health laboratory service, 403-404
BARSKI, G., 206
BARTON, ELIZABETH E., 212
BCG-induced allergy, 57-58
BCG vaccination, 57-58, 318-319
  India, 36-37
BCG vaccine, freeze-dried, 78-79
BEALES, P. F., 142
BECK, M. DORTHY, 383
BEECHER, H. K., 70
BEER, A., 98
BELL, LOUISE, 424
BENDEL, E. G. H., 207
Beriberi, 405
BERNARD, L., 253
BERTHET, E., 419
BERTI, A. L., 115
BETLHEIM, S., 420
BIERMAN, JESSIE M., 361
Bilharziasis, 99-100, 320-322
Biological standardization, 85, 203-205, 385-386
Biological substances, requirements, 88-89

BIVINS, EMMA C., 424
BLAIR, J. E., 417
BLANC, P., 350
BLASKOVIĆ, D., 123
BLOOD, B. D., 351
BOARDMAN, H. M. S., 409
BOÉRI, E., 413
BOLF, Z., 341
BONIN, O., 317
BÖÖK, J. A., 384
BOUCHER, W. H., 413
BOUSSINGAULT, J. B., 179
BOYCE, E., 173, 384
BOZMAN, C. A., 423
BRAGA, E., 351
BROWN, A. W. A., 60, 115, 139, 354
BRUCE, F. E., 26
BRUCE, H. W., 341
BRUCE-CHWATT, L., 212
Brucellosis, 87-88, 124-125, 135-138
Brussels Agreement respecting Facilities to be given to Merchant Seamen for the Treatment of Venereal Diseases, 156, 167-168
BRYANT, G. T., 384
BUGHER, J. C., 384
BURGESS, R. C., 387
BURKOV, T., 341
BURNEY, L. E., 224, 225, 240
BURROWS, W., 417
BUTTIKER, W. G. G., 142

CALDER, R., 286
CALSEYDE, P. J. J. VAN DE, 129, 413
CAMBOURNAC, F. J. C., 409
CANAPERIA, G. A., 14, 85, 86, 87, 246, 253
Cancer, care of patients, 11
  histological definitions of types, 90, 315-316
  statistics, 19, 25-26
CANDAU, M. G., 62, 129, 222, 223, 225, 237, 247, 388, 409, 410, 413
CANNON, D. A., 422
Cardiovascular disease, 132-135
  and hypertension, 388
  Europe, 395-397
  mortality, 398-399
Caribbean area, waterworks training course, 384
  WHO activities, 400-402
CARRIÉ, R., 424
CARTER, I. D., 423
CASTILLO, J. F., 424
CASTLEMAN, B., 420
Castration in treatment of delinquency, 332-333
CAVALLI-SFORZA, L., 384
Certification of cause of death, 399
Ceylon, emergency assistance to, 84
CHAMBERLAYNE, E. C., 351
CHARLES, SIR JOHN, 82, 87, 222, 224, 247, 253
CHARTER, R. E., 193
CHATTI, DIA E. EL-, 82, 253
Chemotherapy, malaria, 368-369
  tuberculosis, 89
CHENG, F. Y., 423
Children, accidents, 351
  dental health services, 96, 341-343
  diarrhoeal diseases, 142, 193-194, 382-383, 421
  handicapped, rehabilitation, 170-171
CHILTON, N., 320
CHISHOLM, B., 222, 223, 237, 247
Cholera, incidence in 1957, 41, 43
  Nepal, 353
  Thailand, 210
  vaccine, 204, 350
Chronic disease, public health aspects, 7-13
CHUGH, M. L., 390
Cirrhosis of the liver, mortality, 347-349
CIUCA, M., 385
CLAUS, W., 37
CLEMENTS, F. W., 97, 181
CLEMMESEN, J., 26
COATNEY, G. R., 385
COCKBURN, W. C., 79, 121, 351
COLLESS, D. H., 383
COLLIP, J. B., 420
Colombia, international health programme, 308
  leprosy, 209-210
COMAR, C. L., 387
Communicable diseases, 255-257, 322-323
Composting of organic wastes, 172
COOK, E. B. M., 5
COOKSEY, F. S., 95
COOPER, MARCIA M., 422
COORAY, G. H., 420
CORADETTI, A., 141
CORNEFERT, FRANCINE, 206
Coronary heart disease, 396-397
Coxsackie viruses, 166, 206, 293
Crabs in the transmission of onchocerciasis, 160
CRAFT, J., 170
CREELMAN, L. M., 388
Cretinism and goitre, 182
Criminal lunatics, 192-193
CRUIKSHANK, E. W. H., 25
Cuba, international health work, 306
Culex pipiens fatigans, resistance to dieldrin, 94

DAJANY, S. EL, 414
DALLING, SIR THOMAS, 351
DARITY, W. A., 391
DAVENPORT, F. M., 44, 385
DAVIDSON, SIR ANDREW, 45
DAVIDSON, G., 94
DAWBER, T. R., 388
DDT, resistance, 94, 207
  wettable powder, 349

Death, certification of, 399
DECHAUME, M., 341
DEENY, J., 318, 424
DEGARD-BODSON, M. T., 341
DELFONTAINE, W., 409
Delinquency, treatment, 329-334
DELTOMBE, EMILIE J., 210
DENOIX, P. F., 26
DENSTON, T. C., 350
Dental health, 258
  and fluorides, 201-203
  auxiliary personnel, 318
  services for children, 96, 341-343
Dentists, public health, 314-315
Dermatophytosis, 125
DESBORDES, J., 421
DEVIGNAT, R., 386
DHARMENDRA, L., 39
Diabetic patients, care, 10-11
Diarrhoeal diseases in children, 142, 421
  Americas, 193-194
  Guatemala, 382-383
DÍAZ-COLLER, C., 82, 86, 253
DIBA, A., 253
Dieldrin, resistance, 94
DIRCKZE, H., 27
Director-General of WHO, annual report, 225-230, 254-262
Division of Malaria Eradication, 61
DIX, H., 98
DOBSON, R. L., 99, 387
Doctors to the World, 280-282
DOINIKOV, A. I., 318
DOLORFINO-MARIANO, LEÓNIDA, 143
Dominican Republic, international health work, 305
DORN, H. F., 26
DOUBEK, B., 413
DOWNES, H. E., 415
DRESDEN, D., 115
Drinking-water, and goitre, 179-180
  international standards for, 323-325
Drug addiction, Iran, 417-418
Drug control, Americas 126-128
Drugs, addiction-producing, 86, 132, 261, 387-388
DUBRAVČIĆ, M., 188
DUCHOSAL, P. W., 388
DULLES, J. F., 61, 62
DY, F. J., 143

Eastern Mediterranean Region, health education, 27
  malaria, 61, 317, 371-372
  nutrition, 419
  Regional Committee, 414-415
    Sub-Committee A, 414-415
    Sub-Committee B, 414-415
  water-supplies, 316-317
  WHO activities in 1957, 262
Echinococcosis, Yugoslavia, 59
ECHO viruses, 166, 206, 293
EDDY, N. B., 387
Education and training, 229-230, 259, 314
  Americas, 306, 402
  antituberculosis workers, 418-419
  fundamental education workers, 209
  health physicists, 37-39
  Libya, 209
  malaria eradication staff, 141
  nurses, 171-172, 208-209, 318
  paediatrics, 195-201, 338-340
  physiotherapy, 302-303
  public health dentists, 314-315
  waterworks officials, 384
EGEMOSE, T., 98
EICHORN, E. A., 351
EISENHOWER, D. D., 221
EISENHOWER, M. S., 222
EJERCITO, A., 385
EMERSON, L. C., 37
Encephalitis, following yellow fever vaccination, 23-24
  tick-borne, 123-124, 293
Encephalomyelitis and poliomyelitis, 206-207
Endemic goitre, *see* Goitre
Environmental sanitation, 228-229, 259
  Western Pacific Region, 26, 384
Epidemiological and statistical information, 41-44, 91-92, 347-349
Epidemiology, 260
  cholera, 41, 43
  influenza, 43-44
  plague, 42, 43
  poliomyelitis, 343-345
  yellow fever, 91-92
Equipment for schools of nursing, 419
ERHARDT, C. L., 399
ERHAT, F., 143
ERICSSON, H., 421
Erythromycin, international standard, 204
ESCUDERO, M. M., 143
Europe, cardiovascular disease, 395-397
  malaria, 64, 317
  Regional Committee, 413-414
  teaching of paediatrics, 338-340
  veterinary public health, 120-125
  water pollution, 383-384
  WHO activities in 1957, 262
EVANG, K., 242
EVANS, D. G., 317, 386, 421
EVE, I. S., 385
Excreta disposal, 213-214
Executive Board, 251, 269-270
  Chairmen, 245-247
  composition (1948-1957), 270
  elections to, 236

Executive Board (*continued*)
twenty-first session, 82-91
twenty-second session, 253-254
Exophily in anophelines, 81-82
Expert Committees, *see under subject*
Eye complications in protein malnutrition, 138-139, 405-406
Eye diseases, 26
See also Trachoma

FAIR, M. F., 37
FALISEVAC, J., 173
FANG, I. C., 416
FAO, *see* Food and Agriculture Organization
FARAH, G., 209
FARIA ALVIM, E. DE, 388
FARINAUD, M. E., 141, 142
FARIS, M., 414
FARMAN-FARMAIAN, S., 385
FAROOQ, M., 391
FATHI, A. A., 421
FAVILLI, G., 420
FEITSMA, J., 341
FELIX, R. H., 420
FELLENBERG, T. VON, 188
Fellowships programme, 277-280
FILLMORE, HELEN, 354
Film on WHO, 282-283
Fluoridation of water, 86, 201-203
Fluorides and dental health, 201-203
Food additives, 88
safety, 52-55
Food and Agriculture Organization, 52-55, 96-97, 126-127,135-138, 275, 404-406
Food control, Americas, 126-128
Food hygiene, 121-122
FORSSMAN, S., 319
FOY, H., 387
FRANCESCHETTI, A., 384
FRANDSEN, J., 69, 248
FREEMAN, L., 219
FREEMAN, R., 388
FREIHOFER, H., 341
FRÈRE, G., 388
FRIIS-HANSEN, B., 97
FUKUMI, H., 385
Fundamental education workers, training, 209

GABALDÓN, A., 27, 366, 385
GALLEY, R. A. E., 115, 421
GALLUT, J., 350
GALUSO, I. G., 121
GANGULI, H. C., 422
GANIMIAN, P., 143
GARCIA, P. J., 142
GARD, S., 317
GASCAR, P., 280
GEAR, J. H. S., 245, 317
GIAQUINTO, M., 139, 386
GIBBS, V., 318
GIGLIOLI, G., 385
GILLIES, M. T., 81
GILLMAN, J., 25
GILROY, A., 98, 141, 142
GISPEN, R., 421
GÖCKEL, C. W., 210
GODOY MOREIRA, F. E., 95
GOINY, H., 160
Goitre, 100-101, 179-188
GÖKÇE, I., 419
GOLDBERG, L., 387
GOLDWATER, L. J., 319
Gonorrhoea, Western Pacific Region, 153-154
GONZÁLEZ, A. A. DE, 312
GONZÁLEZ, C. L., 28, 320
GOODWIN, DOROTHY, 424
GOPAL-AYENGAR, A. R., 384
GRAHAM, A. A., 388
GRAMICCIA, G., 143
GRANDE, P., 37
GRATZ, N., 211
GREENBERG, L., 421
GREGERSEN, M. I., 25
GROEN, J., 388
GRUNDY, F., 98
GRZEGORZEWSKI, E., 99
Guatemala, diarrhoeal disease, 382-383
poliomyelitis, 306-307
GULD, J., 58
GUTHE, T., 295

HABEL, K., 422
HABERNOLL, A., 82, 88, 253
HACKETT, C. J., 210
HADIDI ADDO, M. EL, 209
HADJINICOLAOU, J. N., 142
HAEGERSTRÖM, S., 96
Haiti, international health work, 305
HAKIMI, A. R., 253
HALAWANI, A. EL-, 96, 391
HALBACH, H., 388
HALONEN, MAIRE, 209
HAMMARSKJÖLD, D., 220
HAMON, J., 115
HAMPERL, H., 420
HARDY, A. V., 421
HARLEM, G., 95
HARLEY, J. H., 387
HARRIS, F. F., 386
HAUGLUND, BIRGITTE, 171
HAUSSY, R. D', 139
HAUTRIVE, S., 341
HAYES, W. J., 354
HAZARD, R., 350
HAZEMANN, R. H., 420

HEAFEY, M. J., 209
Health education, 258
  and chronic disease, 11-12
  Eastern Mediterranean Region, 27
  in schools, 142
Health indicators, 18, 46-47
Health legislation, medical specialization, 55-56
Health Organisation of the League of Nations, 265-266
Health physicists, training, 37-39
Health statistics, 17-20, 230-231, 260, 386
  alcoholism, 347-349
  cancer, 19, 25-26
  cardiovascular mortality, 398-399
  cirrhosis of the liver, 347-349
  poliomyelitis, 343-345
HEFNY, A. G. E. EL, 209
HEGARTY, B., 318
HEISCH, R. B., 386
HENNESSY, A. V., 44
Herbicides, 421
Heredity and radiation, 384-385
HIGHTON, R. B., 160
HILBOURNE, E., 388
HILL, ELIZABETH, 162, 388
HILLEBOE, H. E., 388
HILLEMAN, M. R., 385
Histological definitions of cancer types, 90, 315-316
HIYAMA, Y., 387
HJALTESTED, O. P., 413
HOFF, H., 420
HOFFMAN, H. F., 424
HÖJER, A., 130
HOLAGER, E., 122
HOLM, J., 31
HOLMAN, J. C. M., 187
HOLST, J. J., 341
Hookworm disease, Syria, 345-347
HOPE, M. C., 96
HOREJSI, J., 421
HORIKI, K., 151
Hormones, new standards, 205
HORSNELL, A. M., 318
HORWITZ, A., 410
Hospital laboratories, 420-421
Hospitals, mental, 20-21, 189-193
HOUEL, G., 98
HUEHNE, W. H., 423
HUGHES, J. G., 195
HULSE, E. C., 386
HUSFELDT, E., 69
HYDE, H. VAN ZILE, 83, 131, 246, 253
Hypertension, 388, 397

IDSÖE, O., 57, 295
IGLESIAS, A. S., 4
ILO, *see* International Labour Organization
India, BCG vaccination, 36-37
  cholera, 41, 43
  communicable eye diseases, 26
  insecticide resistance, 207
  malaria, 352-353
  physiotherapy school, 302-303
Indonesia, post-graduate courses for nurses, 318
Influenza, 1957 pandemic, 43-44
Injections, intramuscular, 210
Insect vectors of disease, control, 383, 407
Insecticide resistance, 60, 96, 139, 212-213, 214, 369, 372, 402, 407
  Americas, 351-352
  India, 207
  Iran, 94
  Iraq, 94
  Malaya, 94
  Taiwan, 24-25
  Technical Conference, 91, 115-119
Insecticides, use in malaria eradication, 75-76, 369
Instituto Carlos Finlay, 304, 308
International Digest of Health Legislation, 55
  index, 188
International Health Conference, 268
  President, 241
International Journal of Health Education, 388
International Labour Organization, 275
International non-proprietary names for pharmaceutical preparations, 102-111, 349-350
International Nursing Review, 283
International Pharmacopoeia, 85-86
International Sanitary Conferences, 263
International standards, antibiotics, 203-204
  antibodies, 204-205
  antigens, 204
  drinking-water, 323-325
  hormones, 205
Interpretation of tuberculin reactions, 58-59
Iodide and goitre, 181
Iodized salt, in prophylaxis and treatment of goitre, 187-188
Iran, drug addiction, 417-418
  insecticide resistance, 94
Iraq, insecticide resistance, 94
Iron deficiency anaemia, 387
IRONS, J. V., 5
ISSARIS, P. C., 142

JAAG, O., 383
JACQUES, R., 302
JAFAR, M., 91, 245
Jamaica, malaria, 140
JAMMET, H., 387
Japan, composting of organic wastes, 172
  insecticide resistance studies, 139
JARAMILLO, L. E., 82
JEANMAIRE, L., 387

JELLIFE, D. B., 363
JEPSEN, A., 28, 121
JERNE, N. K., 350, 386, 421
JOACHIM, M., 341
JOACHIMOGLU, G., 387
JOHNSON, C. G., 171
JONES, LOIS M., 212
JONES, M., 420

KACAREVIC, D. Z., 421
KACPRZAK, M., 130, 248
KALLNER, GERTRUDE, 386
KANT, L., 390
KAPLAN, M., 122, 124, 351
KATCHUR, LIDIA A., 387
KAUR, RAJKUMARI AMRIT, 242, 249
KAY, H. D., 95
KEARNS, C. W., 115
KEE, T. H., 415
KELLY, F. C., 179, 180
Kenya, onchocerciasis, 160-162
KESSLER, H. H., 95
KEY, A., 383
KHANACHET, S., 224
KHANOLKAR, V. R., 385
KHATER, M., 243
KHURI-OTAQUI, SALWA, 173
KLASSEN, C. W., 423
KLEIN, D., 385
KLINEBERG, O., 420
KNEZ, D. M., 390
KOCH, F., 82
KOHN, E., 69, 389, 420
KONCHADY, D., 143
KRAG, P., 386
KRAPF, E. E., 351, 420, 422
KRECH, U., 318, 421

LA BARRE, J., 387
Laboratories, hospital, 420-421
  public health, 334-338, 403-404
Laboratory diagnosis, 416-417
LAFONTAINE, A., 317, 421
LAHIRI, D. C., 350
LAIRD, M., 383
LAMBO, T. A., 420
LANDEG, D., 390
Latin America, smallpox vaccination, 3-7
  teaching of paediatrics, 195-201
LA TOUCHE, C. J. P., 125
Latrines, water-seal, 95
LAVEN, H., 115
LAVERGNE, J., 98
LAVIRON, P., 97
LAYRISSE, M., 387
League of Nations Health Organisation, 265-266
LEATHERMAN, G. H., 341
Lebanon, rehabilitation of handicapped children, 170-171
LEBEDEV, Y., 383
LEMKAU, P. V., 319
Léon Bernard Foundation Medal and Prize, 236-240, 248
LÉPINE, B., 422
LÉPINE, P., 206, 317
Leprosy, 226-227
  Americas, 352
  Colombia, 209-210
  Paraguay, 312-314
  Thailand, 39-41
Leptospirosis, 124
LE VAN KHAI, 253
Levels of health, 45-48
Liberia, yaws, 207-208
Libya, training of health personnel, 209
LILIENTHAL, B., 354
LINDER, F. E., 386
LINDQUIST, A. W., 115
LINETSKAYA-NOVGORODSKAYA, E. M., 421
LINGARAJU, B. N., 390
LISTER, B. A. J., 37
LOGAN, W. P. D., 26, 386
LÓPEZ DE NAVA, G., 211
LOTTE, ALICE, 419
LOWY, LUELA, 142
LUCAS, A., 422
LUND, L., 387
LUNDSGAARD, E., 25

MAALØE, O., 350, 386
MCCARRISON, R., 180
MCCLEAN, D., 4, 421
MCCULLOUGH, F. S., 97
MACDONALD, G., 385
MACKENZIE, M., 246
MCKEOWN, T., 423
MACKINTOSH, J. M., 420
MCLAREN, D. S., 138
MCLEAN, A. S., 387
MACLEOD, D., 341
MCMAHON, J. P., 160
MACNAMARA, F. N., 350
MACNEILL, S., 341
MADERA, W., 383
MAGNUS, H. VON, 317
MAGNUS, K., 57
MAHI, T. EL, 351
Malaria, 83, 232-233, 255, 385
  Africa, 157-160, 319
  Americas, 309-312
  Caribbean area, 401
  chemotherapy, 368-369
  Eastern Mediterranean Region, 61, 317, 371-372

Malaria (*continued*)
Europe, 64, 317
exophily in vectors, 81-82
India, 352-353
Jamaica, 140
mass prophylaxis, 205-206
Mexico, 140-141
re-introduction, 93-94
South-East Asia, 26-27, 366-370
Southern Rhodesia, 60-61
Taiwan, 73-77
training of staff, 141
Western Pacific Region, 26-27, 366-370
Malaria Eradication, Division of, 61
Malaria Eradication Special Account, 61-62, 169-170
Malaya, insecticide resistance, 94
MANGALIK, V. S., 421
MANI, C., 411
MANN, IDA, 375
MANUGIAN, A. S., 420
MARENNIKOVA, S. S., 421
MARINE, D., 188
MASTBAUM, O., 385
Maternal and child health, 258
in the developing countries, 361-366
MATOVINOVIĆ, J., 184
MAUREL, R., 96
MAURER, M., 95
MAURY, P. H., 172
Mecca Pilgrimage, health precautions, 352
Medical education, 168
Medical specialization, legislation, 55-56
MEHTA, PAGE COLEMAN, 302
MENDY, R. M., 351
MENON, I. G. K., 385
Mental health, 258
and atomic energy, 379-382, 420
and automation, 421-422
in old age, 351
preventive work, 20-21
Mental hospitals, 20-21, 189-193
METCALF, R. L., 115
METCALFE, A. J., 87, 89, 253
Mexico, international health work, 304-305
malaria, 140-141
MEYER, K. F., 351, 386
MICKS, D. W., 354
MIGUEL, L., 424
MIKAT, B., 386
MILES, J. A. R., 351
Milk preservatives, 95
MILLIGAN, M. J., 387
MILTON, A., 318
MINDUS, E., 95
MIQUEL, R., 39
MISSIURO, W., 25
MITTAL, M. C., 390
MODIFI, M., 387
MOORE, ANNIE R., 424
MOORE, E. W., 384
MOORE, P. E., 82, 89, 253
Morbidity statistics, 18-19
MORGAN, M., 280
MORRIS, J. C., 390
MORRIS, J. N., 388
MORSE, C., 143
Mortality, alcoholism, 347-349
cardiovascular disease, 398-399
cirrhosis of the liver, 347-349
MOSES, H., 390
MOSNA, E., 115
MOSSIGE, E., 98
MUCKENFUSS, R., 421
MUDALIAR, SIR ARCOT, 245, 253
MUIRHEAD-THOMPSON, R. C., 91
MULDER, J., 385
MÜLLER, J., 351
MUÑOZ, J. A., 184, 383
MURPHY, G. C., 173
MURPHY, L. J., 173
MURRAY, J. F., 421
MURRAY, R., 318
MYASISHCHEV, V. N., 422

NAGANO, S., 388
NAGASAWA, S., 139
NAGATY, H. F., 345
NAJARIAN, H., 142
NASTRUCCI, W., 341
National committees on vital and health statistics, 19-20
NEEL, J. V., 384
NELSON, U., 172
Nepal, cholera, 353
Neurotropic virus diseases, 291-294
NEVITT, G. A., 389
NEWELL, K., 389
NICHOLLS, J. R., 388
NIR-GROSFELD, I., 95
NOBLÍA, H. V., 410
NORO, L., 211
Nurses, in international health work, 162-163, 283
in paediatrics, 340
Nursing, public health, 171-172, 257, 388
Nursing administration, 391-392
Nursing education, Indonesia, 318
Pakistan, 208-209
Seychelles, 171
Tunis, 171-172
Nursing schools, equipment, 419
Nutrition, 88, 258, 404-406
Eastern Mediterranean Region, 419
publications, 96-97

OBAYASHI, Y., 78
Occupational health, 21-22, 257-258
Office International d'Hygiène Publique, 264-265
OIHP, *see* Office International d'Hygiène Publique
Old age and mental health, 351
OLIVERO, H., 253
OLSON, R. E., 238
Onchocerciasis, 228
  Kenya, 160-162
  Sudan, 139
Opium addiction, Iran, 417-418
ORDWAY, N. K., 421
Organic wastes, composting, 172
OSSENFORT, W. F., 417
OSVALD, O. K., 318, 341
OZAWA, R., 415

PACHECO E SILVA, A. C., 422
Paediatrics, teaching, 195-201, 338-340
Pakistan, cholera, 41, 43
  nursing education, 208-209
  smallpox, 317
Palestine refugees, 259
PAMPANA, E. J., 61, 425
Pan American Sanitary Organization, change of name, 410
  Special Malaria Fund, 61-62, 309, 311-312
  See also Americas
PANTHIER, R., 350
Paraguay, leprosy control, 312-314
PARISOT, J., 95, 244, 422
PARNAS, J., 122, 351
PARRAN, T., 236, 241
PASO, *see* Pan American Sanitary Organization
PASTUKHOV, B., 386
PAUL, J. R., 343
PAULINI, E., 421
PAYNE, A., 345, 385
PEARCE, G. W., 421
Penicillin, reactions to, 57, 154-155, 295-301
PENIDO, H. M., 253, 421
PENSO, G., 318
People and places, 27-28, 97-99, 142-143, 172-173, 211-212, 319-320, 353-354, 389-391, 422-425
People Like Maria, 282-283
PÉREZ, C., 183
PERRY, A. S., 390
PERRY, W. M. L., 350
Pertussis vaccination, reactions, 79-80
Pertussis vaccine, international standard, 204
PESONEN, N. N., 87, 224
Pesticides, 421
PETERSON, P. K., 219
PETERSON, S., 318
PFISTER, MARIA, 351

Pharmaceutical preparations, control, 126-128
  international non-proprietary names, 102-111, 349-350
  specifications, 48-52
Phenoxymethylpenicillin, international standard, 204
Physiotherapy school, India, 302-303
PIRC, B., 386
PITTMAN, MARGARET, 350
Plague, 386
  incidence in 1957, 42, 43
PLATT, B. S., 390
Poliomyelitis, 86-87, 147-150
  and encephalomyelitis, 206-207
  epidemiology, 343-345
  Guatemala, 306-307
  research, 163-166
  vaccination, 147-149, 164, 291-292
  vaccine, 164-165, 204, 292, 317-318
Poliomyelitis, Russian translation, 72
POLLITZER, R., 386, 417
POSTERNAK, J., 25
Post-vaccinal encephalitis, 23-24
Potamonautes niloticus in the transmission of onchocerciasis, 160
POTTEVIN, H., 264
POULTON, E., 341
Preservatives in milk, 95
Preventive medicine, teaching, 25, 420
PRIETO, M., 244
PRIGGE, R., 386
PRINGLE, G. M., 318
PROJA, R., 387
Prostitution, 156
Protein malnutrition, 404-405
  eye complications, 138-139, 405-406
Psychiatric hospitals, *see* Mental hospitals
Psychiatry, and treatment of deliquency, 329-334
  social, 420
Publications of WHO, review, 62-64, 99-101, 174-175, 212-214, 285-287, 320-325, 355-357, 391-392, 425-426
Public health, and air pollution, 14-16
  and chronic disease, 7-13
  and poliomyelitis, 147-150
  international co-operation, 263-268
Public health dentistry, 314-315
Public health laboratory services, 334-338
  Barbados, 403-404
Public health nursing, 171-172, 257, 388
Public health services, 230, 257-259
  Africa, 170
  Americas, 418
Public health training, 314
PUFFER, RUTH R., 193, 195, 398
PURANANANDA, G., 421

Quarantine measures, 125

QUARTERMAN, K. D., 115
QUERIDO, A., 351
QUIRÓS MADRIGAL, F. A., 420

Rabies, 124
  local treatment of wounds, 208
Radiation, brain damage from, 379-380
  effect on human heredity, 384-385
  permissible levels, 38
Radio-active contamination, 386-387
Radiochemical methods of analysis, 386-387
RADJI, A. H., 253
RAE, A. E. W., 253
RAMADWAR, D. K., 390
RAMALINGASWAMI, V., 184, 387
RAMM, J., 341
RAO, B. A., 207, 385
RAO, R. S., 421
RAO, T., 27
READ, MARGARET, 170
Rehabilitation, handicapped children, 170-171
  medical, 95-96
  rheumatic patients, 9-10
RENOUX, G., 421
REPOND, A., 351
REPOND, R., 341
Report on world health situation, 235
Reports of expert groups, 17-24, 45-55, 85-91, 132-138, 163-168, 201-205, 379-382, 404-409
Research programme, 235-236
Respiratory virus diseases, 385
Review of WHO publications, 62-64, 99-101, 174-175, 212-214, 285-287, 320-325, 355-357, 391-392, 425-426
Rheumatic heart disease, 395-396
Rheumatic patients, rehabilitation, 9-10
RICHARDS, H., 173
RIZOS, E. J., 423
ROBERTS, C. A., 351
ROGERS, K. B., 421
ROGINA, B., 188
ROJAS, F., 388
ROQUE, R. A., 385
ROTH, M., 351
RUDKO, V., 341
RUSSELL, H. B. L., 391
RUSSELL, P. F., 385
RUTSTEIN, D. D., 388

SAFFORD, F. K., 211
SAGLAN, T., 419
SALCEDO, J., 243
SANCHES, W., 423
SAND, R., 241
SANGSINGKEO, P., 420
Sanitary charges, tariffs, 307
Sanitary engineers, 392, 419
Sanitation of international airports, 96
SANSONNENS, R., 421
SANTA MARÍA, M., 173
SANTOLIQUIDO, R., 265
SAUNDERS, J. L., 318
SAUTER, A., 224
SAUTET, J., 81
SAWYER, W. A., 248
SCHEELE, L., 242
SCHLIESSMANN, D. J., 421
School of physiotherapy, India, 302-303
Schools, health education in, 142
Schools, medical, 168
  of nursing, equipment, 419
SCHULL, W. J., 384
SCRIMSHAW, N. S., 183, 383
SEAL, S. C., 386
Seamen and venereal disease, 90-91, 155-156, 167-168
SEBELIUS, C. L., 341
SECCOMBE, E. W., 390
SEITZ, J. F., 421
SELLÉS, E., 350
SÉNÉCAL, J., 421
SENIOR, W. G., 341
Seychelles, nursing training, 171
SEYNES, P. DE, 220
SHARMA, R., 390
SHAWARBY, A. A., 115
SHOIB, M. O., 253
SHOUSHA, A. T., 245
SHU, C.-Y., 373
SIDKY, A. A., 391
SIIM, J. C., 125
SILOW, R. A., 387
SILVA TRAVASSOS, A. DA, 82
Simulium neavei, vector of onchocerciasis, 160-162
SINCLAIR-LOUTIT, K., 364
SINGH, J., 115, 411
SJÖGREN, T., 351
SKELLY, J., 211
SKRINJAR, B., 386
SLIM, M., 253
Smallpox, 227-228, 231-232, 253
  epidemic in Pakistan, 317
  vaccination, 3-7
  vaccine, 4-7, 204, 421
SMEETON, PAMELA M., 211
SNEDDEN, W. W., 179, 180
SNEZHNEVSKY, A. V., 351
Social health, 257-258
Social psychiatry, 420
Social security and chronic disease, 11
SOEHARSO, R., 96
SOLOVIEV, V., 318
SOOP, E., 391
SOPER, F. L., 62, 130, 410, 411

South-East Asia, malaria, 26-27, 366-370
Regional Committee, 411-413
sanitary engineers, 419
WHO activities in 1957, 262
Southern Rhodesia, malaria, 60-61
SOUZA LIMA, L. DE, 312
Special Malaria Fund of the Pan American Sanitary Organization, 61-62, 309, 311-312
SPERANSKY, J. S., 388
SPITZ, A., 143
Sports medicine, 84, 235
SPURRELL, W. R., 25
STABLEFORTH, A. W., 351
ŠTAMPAR, A., 241, 284, 413
STANBURY, J. B., 181
Statistics, *see* Health statistics
STEELE, J. H., 120, 351
STEINKAMP, RUTH C., 387
STENGEL, E. E., 320
STEVENSON, A. C., 384
STEWART, C. G., 387
STOCKS, P., 26
STOETZEL, J., 422
STORMONT, R. T., 350
STRANSKI, D., 341
STRAUB, C. P., 387
STUART-HARRIS, C. H., 385
STUDIĆ, D., 122
Sudan, onchocerciasis, 139
SUIC, M., 59
SUNDRAM, C. J., 318
SVEDMYR, A., 385
SWAROOP, S., 47
Syphilis, Western Pacific Region, 152-153
Syria, hookworm disease, 345-347
SZE, T. S., 388

TABA, A. H., 414
TABONE, V., 373, 376
Taiwan, insecticide resistance, 24-25
malaria, 73-77
trachoma, 373-376
TAKEI, S., 139
TANNER, W., 423
Tariffs of sanitary charges, 307
TARIZZO, M., 27
TAYLOR, J., 421
TAYLOR, W., 354
Technical Conference on Resistance to Insecticides, 91, 115-119
Technical Preparatory Committee for the International Health Conference, 268
Chairman, 241
Tenth anniversary of WHO, 219-224
Tetracycline, international standard, 203
TEWARI, T. R., 253
Thailand, cholera epidemic, 210
fundamental education workers, 209
leprosy, 39-41
Therapeutic and diagnostic substances, 62-63
See also Pharmaceutical preparations
THILLEMANN, J., 98
THOMAS, M. E. M., 193
THONG, T. P., 416
THYMAKIS, K., 142
Tick-borne encephalitis, 123-124, 293
TIMMERMAN, W. A., 99, 425
TITUS, J. B., 409
TODD, D. P., 70
TOGBA, J. N., 88, 91, 243, 253
TOMCSIK, J., 386
TOOTH, G., 98, 189
TORGERSON, O., 388
TOSTES, E., 96
TOURNEPICHE, M., 171
Toxoplasmosis, 125
Trachoma, Taiwan, 373-376
TRÉBOUX, J., 421
TROITZSKY, V. L., 350
TROUPIN, J. L., 425
TSEGHE, Y., 414
Tuberculin, new batch for vaccination campaigns, 318-319
Tuberculin tests, effect on BCG-induced allergy, 57-58
interpretation of reactions, 58-59
Tuberculosis, 31-35, 226, 256
Africa, 353
Caribbean area, 401
chemotherapy and chemoprophylaxis, 89
international training course, 418-419
Tunis, nursing training, 171-172
Turkey, international tuberculosis training course, 418-419
TURPIN, YVONNE, 419
Typhoid vaccine, 204

UEMURA, K., 47
ULRICH, A.-M., 142
UNESCO, *see* United Nations Educational, Scientific and Cultural Organization
UNICEF, *see* United Nations Children's Fund
United Nations Children's Fund, 36-37, 208-209, 275, 361-366, 403
United Nations Educational, Scientific and Cultural Organization, 209, 275, 420
United Nations Korean Reconstruction Agency, 276
United Nations Relief and Rehabilitation Agency, 267-268
United Nations Relief and Works Agency for Palestine Refugees in the Near East, 259, 276

United States of America, *Aëdes aegypti* eradication, 377-378
contribution to malaria eradication funds, 61-62
message of President to Tenth Anniversary Commemorative Session of WHO, 221
UNKRA, *see* United Nations Korean Reconstruction Agency
UNRRA, *see* United Nations Relief and Rehabilitation Agency
UNRWA, *see* United Nations Relief and Works Agency for Palestine Refugees in the Near East
UPADHYAYA, S. K., 390
Urethritis, non-gonococcal, Western Pacific Region, 154
USA, *see* United States of America

Vaccination, BCG, 36-37, 57-58, 318-319
pertussis, 79-80
poliomyelitis, 147-149, 164, 291-292
smallpox, 3-7
yellow fever, 294
Vaccination certificates, 125
Vaccines, BCG, freeze-dried, 78-79
cholera, 204, 350
international standards, 204
pertussis, 204
poliomyelitis, 164-165, 204, 292, 317-318
smallpox, 4-7, 204, 421
typhoid, 204
yellow fever, 22-24, 350
Vaccine studies, 256-257
VEENEKLAAS, G. M. H., 338
VELÁSQUEZ, B. L., 388
Venereal disease, maritime aspects, 90-91, 155-156, 167-168
Western Pacific Region, 141, 151-156
VERHOESTRAETE, L. J., 193, 364, 398
Veterinary public health, 256
Europe, 120-125
VIBAR, C. N., 143
VICENTE, C. C., 143
VICKERS, SIR GEOFFREY, 239
VILTER, R. V., 387
VINCKE, I., 173
VINOKOUROFF, C., 99
Virus diseases, 63-64, 256-257
neurotropic, 291-294
respiratory, 385
Viruses, Coxsackie, 166, 206, 293
ECHO, 166, 206, 293
influenza, 44
neurotropic, 291-294
Vital and health statistics, national committees on, 19-20
See also Health statistics
Voyage chez les vivants, 280-282
VUILLAUME, R., 123
VY, T., 224
VYGODCHIKOV, G. V., 386

WAGENER, K., 351
WAHBI, S. H., AL-, 219, 220, 221, 222, 224, 244, 414
WANG, P.-N., 57, 319
Water fluoridation, 86, 201-203
Water pollution in Europe, 383-384
Water-supplies, Eastern Mediterranean Region, 316-317
Western Pacific Region, 417
See also Drinking-water
Waterworks training course, 384
WATSON, E. H., 98
WEEKS, E. B., 61, 385
WEGMAN, M. E., 195
WELCH, H., 298, 386
Western Pacific Region, biological control of *Aëdes polynesiensis*, 383
environmental sanitation, 26, 384
malaria, 26-27, 366-370
new WHO building, 142
Regional Committee, 415-416
venereal disease, 141, 151-156
water-supplies, 417
WHO activities in 1957, 262
WHARTON, R. H., 94
WHITTINGHAM, SIR HAROLD 96, 131
WHO, *see* World Health Organization
WILCOX, F. O., 219, 224
WILKINSON, F. C., 318
WILLCOX, R. R., 57, 151, 295
WILLIAMS, G. Z., 421
WILLIAMS, J. E., 353
WILLIAMS, R. E. O., 417
WILLIAMSON, A. E., 422
WILSON, A. T. M., 422
WINSLOW, C. E. A. M., 248
WINTERINGHAM, F. P. W., 115
WOLFF, J. W., 350, 351
WOLMAN, A., 423
WOOD, W. E., 423
WOODBURY, R. M., 194
WOODMAN, F. J., 387
WOODRUFF, A. W., 387
World Directory of Medical Schools, 168
World Health Assembly, 250, 269
Presidents, 241-244
World Health Assembly, Eleventh, 224-236
President, 240
Tenth Anniversary Commemorative Session, 219-224
World Health Assembly, Twelfth, place, 236
World Health Day 1958, 129-131

World Health Organization, articles and studies on, 427-438
budget for 1959, 82-83, 230
budgets (1948-1958), 274
co-operation with other organizations, 275-276
Directors-General, 247
establishment, 268
financial resources, 274-275
Headquarters, 249
programme for 1959, 82, 230-235
publications, *see* Review of WHO publications
Regional Offices, 252, 271, 272
Secretariat, 270-273, 389
structure and working methods, 269-277
tenth anniversary, 219-224
work in 1957, 225-230, 254-262
World health situation, report, 235
WRIGHT, G. P., 25, 420
WRIGHT, J. W., 115, 421
YAMAGUCHI, M., 151
Yaws, 227
Caribbean area, 401
Liberia, 207-208
nomenclature of lesions, 174
YEKUTIEL, P., 98
Yellow fever, incidence in 1957, 91-92
vaccination, 294
vaccine, 22-24, 350
YLIRUOKANEN, A., 341
YOSHIDA, T., 420
Yugoslavia, echinococcosis, 59

ZAHRA, A., 28
ZAKUSOV, V., 350
ZHDANOV, V. M., 253, 385
Zoonoses, 120-125, 256, 350-351
ZOZAYA, J., 82
ZYSNO, E., 28

WHO PUBLICATIONS

SUBSCRIPTIONS AND PRICES 1959

Global Subscription

The global subscription covers all WHO publications, i.e., the combined subscription " C " and, in addition, the *Monograph Series*, *Annual Epidemiological and Vital Statistics*, and any other occasional publications.

£30 $105.00 Sw. fr. 350.—

Combined Subscriptions

Special prices are offered for combined subscriptions to certain publications, as follows:

Subscription				
A	*Bulletin*, *Chronicle* and *Technical Report Series*	£7 15*s*.	$28.00	Sw. fr. 90.—
B	*Epidemiological and Vital Statistics Report* and *Weekly Epidemiological Record*	£6 15*s*.	$25.00	Sw. fr. 80.—
C	*Bulletin*, *Chronicle*, *Technical Report Series*, *Epidemiological and Vital Statistics Report*, *Weekly Epidemiological Record*, *Official Records*, and *International Digest of Health Legislation*	£18	$70.00	Sw. fr. 220.—

Global and combined subscriptions can be obtained from WHO sales agents only for the calendar year. WHO Distribution and Sales Unit will be pleased to make a quotation for any other type of combined subscription desired.

Individual Subscriptions

Bulletin, vol. 20 and 21 (12 numbers)	£5 10*s*.	$20.00	Sw. fr. 65.—
Chronicle, vol. 13 (12 numbers)	17/6	$3.00	Sw. fr. 10.—
International Digest of Health Legislation, vol. 10 (4 numbers)	£2	$7.50	Sw. fr. 25.—
Technical Report Series	£2	$7.50	Sw. fr. 25.—
Official Records	£3 5*s*.	$12.00	Sw. fr. 40.—
Epidemiological and Vital Statistics Report, Vol. 12 (12 numbers)	£3 5*s*.	$12.00	Sw. fr. 40.—
Weekly Epidemiological Record, 34th year (52 numbers)	£3 15*s*.	$14.00	Sw. fr. 45.—

Specimen numbers and a catalogue will be sent free of charge on request

Sales Agents for WHO Publications

WHO publications may be obtained, directly or through a bookseller, from the agents listed on the back cover, on payment in the national currency. Orders from countries where sales agents have not yet been appointed may be sent to the World Health Organization, Distribution and Sales Unit, Palais des Nations, Geneva, Switzerland; payments (by cheque, cash, or postal order) must be made in pounds sterling, U.S. dollars, or Swiss francs.

12

WHO publications may be obtained by payment in local currency, directly or through a bookseller, from the following agents:

ARGENTINA: Editorial Sudamericana, S.A., Calle Alsina 500, BUENOS AIRES

AUSTRALIA: H. A. Goddard Pty, Ltd, A. M. P. Building, 50 Miller Street, NORTH SYDNEY

AUSTRIA: B. Wüllerstorff, Markus Sittikusstrasse 10, SALZBURG — Gerold & Co., I. Graben 31, VIENNA 1

BELGIAN CONGO: Librairie Congolaise, 12, av. des Aviateurs, LÉOPOLDVILLE

BELGIUM: Offfce international de Librairie, 30, av. Marnix, BRUSSELS

BRAZIL: Livraria Agir, Caixa Postal 3291, RIO DE JANEIRO, D.F.

CANADA: The Ryerson Press, 299 Queen Street West, TORONTO, Ontario

CEYLON: The Lake House Bookshop, The Associated Newspapers of Ceylon, Ltd, P.O. Box 244, COLOMBO

CHINA: The World Book Co., Ltd, 99, Chungking South Road, Section 1, TAIPEH, Taiwan

COSTA RICA: Imprenta y Librería Trejos S.A., Apartado 1313, SAN JOSÉ

CUBA: La Casa Belga, René de Smedt, O'Reilly 455, HAVANA

DENMARK: Ejnar Munksgaard, Ltd, Nørregade 6, COPENHAGEN

ECUADOR: Librería Científica Bruno Moritz, Luque 233, GUAYAQUIL

FINLAND: Akateeminen Kirjakauppa, Keskuskatu 2, HELSINKI

FRANCE: Masson & Cie, Editeurs, 120 bd Saint-Germain, PARIS 6e

GERMANY: Govi-Verlag, Platz der Republik 42, FRANKFURT A.M. — W. E. Saarbach, Gertrudenstrasse 30, COLOGNE 1 — Alex. Horn, Spiegelgasse 9, WIESBADEN

GREECE: Librairie internationale "Eleftheroudakis", Place de la Constitution, ATHENS

HAITI: Max Bouchereau, Librairie "A la Caravelle", Boîte postale 111-B, PORT-AU-PRINCE

INDIA: Orient Longmans, Ltd, 17 Chittaranjan Avenue, CALCUTTA 13; 14/1 Asaf Ali Road, NEW DELHI 1; Nicol Road, Ballard Estate, BOMBAY 1; 36a Mount Road, MADRAS 2; B-A-324 Main Gunfoundry Road, HYDERABAD-DN — Oxford Book & Stationery Co., Scindia House, NEW DELHI (Sub-Agent)

INDONESIA: N.V. v/h G.C.T. van Dorp & Co., Djalan Nusantara 22, DJAKARTA

IRELAND: The Stationery Office, DUBLIN

ISRAEL: Heiliger & Co., 3 Nathan Strauss Street, JERUSALEM

ITALY: Edizioni Minerva Medica, Corso Bramante 83-85, TURIN; Via Lamarmora 3, MILAN

JAPAN: Maruzen Company Ltd, 6 Tori-Nichome Nihonbashi, TOKYO

LEBANON: Librairie Universelle, BEIRUT

LUXEMBOURG: Librairie J. Schummer, Place Guillaume, LUXEMBOURG,

MEXICO: La Prensa Médica Mexicana, Paseo de las Facultades 26, MÉXICO 20, D.F.

NETHERLANDS: N.V. Martinus Nijhoff's Boekhandel en Uitgevers Maatschappij, Lange Voorhout 9, THE HAGUE

NEW ZEALAND: R. Hill & Son, Ltd, Plaza Theatre Building, 236 Queen Street, AUCKLAND C.1

NORWAY: Johan Grundt Tanum Forlag, Kr. Augustsgt. 7A, OSLO

PAKISTAN: Mirza Book Agency, 9-A, Shah Alam Market, LAHORE — Ferozons' Publishers, McLeod Road, KARACHI; 365 Circular Road, LAHORE; 35 The Mall, PESHAWAR

PARAGUAY: Agencia de Librerías S. Nizza, Pte. Franco No. 47, ASUNCIÓN

PHILIPPINES: Alemar's, 749 Rizal Avenue, MANILA

PORTUGAL: Livraria Rodrigues, 186 Rua Aurea, LISBON

SINGAPORE: City Book Store, Ltd., Winchester House, Collyer Quay

SPAIN: Librería Atheneum, Rambla de Cataluña 13, BARCELONA

SWEDEN: Aktiebolaget C. E. Fritzes, Kungl. Hovbokhandel, Fredsgatan 2, STOCKHOLM 16

SWITZERLAND: Medizinischer Verlag, Hans Huber, Marktgasse 9, BERN

THAILAND: Pramuan Mit Ltd, 55-59 Chakrawat Road, Wat tuk, BANGKOK

TURKEY: Librairie Hachette, 469 av. de l'Indépendance, ISTANBUL

UNION OF SOUTH AFRICA: Van Schaik's Bookstore, (Pty), Ltd, P.O. Box 724, PRETORIA

UNITED ARAB REPUBLIC: Province of Egypt: Librairie "La Renaissance d'Egypte", 9 Sharia Adly Pasha, CAIRO — Province of Syria: Librairie Universelle, DAMASCUS

UNITED KINGDOM: H.M. Stationery Office, P.O. Box 569, LONDON S.E.1

UNITED STATES OF AMERICA: Columbia University Press, International Documents Service, 2960 Broadway, NEW YORK 27, N.Y.

URUGUAY: Oficina de Representación de Editoriales, Sr. Héctor d'Elía, Plaza Cagancha 1342, 1er piso, MONTEVIDEO

VENEZUELA: Librería Científica Rages, av. Roosevelt, Edificio Araguaney, letra A, CARACAS

YUGOSLAVIA: Državno Preduzeće, Jugoslovenska Knjiga Terazije 27/II, BELGRADE

Orders may also be addressed to

WHO Distribution and Sales Unit, Palais des Nations, Geneva, Switzerland

but must be paid for in one of the currencies in which prices are quoted on the front cover.